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KEY-CATALOGUE OF PARASITES REPORTED FOR CARNIVORA (CATS, DOGS, BEARS, ETC.)

WITH THEIR POSSIBLE
PUBLIC HEALTH IMPORTANCE





U.S. TREASURY DEPARTMENT
PUBLIC HEALTH SERVICE
WASHINGTON, D.C.

Stiles Baker Key Catalogue of Parasites Reported for Carnivora (Cats Dogs, Bearsete)
Bulletin 163 1935



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KEY-CATALOGUE OF PARASITES REPORTED FOR CARNIVORA (CATS, DOGS, BEARS, ETC.) WITH THEIR POSSIBLE PUBLIC HEALTH **IMPORTANCE**

BvC. W. STILES and CLARA EDITH BAKER



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KEY-CATALOGUE

OF

PARASITES REPORTED FOR CARNIVORA (CATS, DOGS, BEARS, ETC.)

WITH THEIR POSSIBLE PUBLIC HEALTH IMPORTANCE 1

By C. W. Stiles, Medical Director, and Clara Edith Baker, National Institute of Health, United States Public Health Service

INTRODUCTION

Division of labor.—In the present bulletin, which represents part 8 of the host catalogs, assistants have specialized in the preparation of the manuscript as follows:

PROTOZOA, Lucy Reardon, M. A.; TREMATODA and CESTODA, Mabelle Orleman Nolan, A. M.; NEMATODA and ACANTHOCEPHALA, Asenath Graves McKnight, A.B.; and Marion M. Farr, A. M.; ARACHNOIDEA, Eugenia Cuvillier, A. B.; INSECTA, Benjamin J. Collins, M. S.; CARNIVORA, Clara Edith Baker, A. M.

In the present article, the key to the hosts (carnivores) is marked with the sign #; the other entries (printed in double column where possible, otherwise with extra indention) refer to the parasites.

The key to the hosts is inserted in order to meet an urgent desideratum in laboratories in which carnivores are studied in respect to their parasitic infections and in which they are used as experimental animals. The systematic literature on carnivores is not readily accessible to parasitologists and bacteriologists and the older nomenclature of the order is so confused that it is frequently difficult for anyone except a specialist in mammalogy to classify these animals.

Dr. Gerrit S. Miller has kindly aided us in tracing various species and references involving obscure records.

How to use the catalog.—See pages 1-4, Bulletin 140, Key-Catalog of the Protozoa reported for man.

The pagination of the present Key-Catalog (Bul. 163) is continuous with that of Bulletin 159.

¹ Manuscript submitted for publication Aug. 26, 1931.

In order to make the text more useful to scientific workers, various abbreviations are used and an effort is made to designate the status of some of the names by use of type, as follows:

CAPS are used for systematic names above the superfamilies.

SMALL CAPS are used for valid, available, and in some cases for dead superfamily names (ending in oidea), family names (ending idae), and subfamily names (ending inae).

Larger heavy face type is used for side headings for current generic and specific names of hosts; slightly smaller heavy face type is used for side headings for current generic names of parasites.

Italics are used for-

- (1) Generic names which have a definitely valid, or an available status for the species quoted in connection with said generic name, or are considered sub judice; i.e., they are not definitely known to be dead.
- (2) Specific names which have a definitely valid, or at least an available status for the animal in question, or are sub judice; i. e., they are not definitely known to be dead.

Roman type, lower case, is used for-

- (1) Generic names which have a definitely unavailable (hence dead) status (as homonyms, or because of advances in classification) in connection with the species quoted with said generic name, especially under the host cited.
- (2) Specific names which are definitely *unavailable* (hence dead) for the species in question, especially as applied to the reported occurrence in the host cited.

In order to simplify the lists of technical names, the synonyms—when a considerable number are more or less generally recognized—are placed in footnotes; if the synonyms are only few in number they are cited in the text in order to save expense in printing.

For special information, in connection with some of the names, the following signs and abbreviations are used—but their absence from any given entry has no significance.

- † In this and the companion key-catalogs to the parasites of animals other than man, the dagger (†) is used before superspecific names to signify that characters, diagnoses, or other data regarding these superspecific groups are to be found in the key-catalogs of the parasites of man; when used before a specific name it signifies that the species in question has been reported for man. Thus the key-catalogs to the protozoa, the worms, and the arthropods of Homo are taken as bases for all the companion numbers. Groups not reported under Homo are taken as bases for all the companion numbers. Groups not reported under Homo are keyed under the order in which is classified the first host for which the parasites are cited in these keys. Thus all parasites in this bulletin are classified under # 407 CARNIVORA, p. 922.
 - * This species has been reported for this host for the United States.
- # This sign refers only to the hosts, and these have serial numbers which are independent of the serial numbers of the parasites.
- ? Doubts have been expressed or exist as to the name or to the specific or the generic determination.
- [] The use of brackets around a specific entry signifies that the species has been classified, either as a synonym or otherwise, under the genus cited above but that our card catalog contains no citation of an actual binomial combination with the generic name in question, and the present citation is not to be construed

as a new binomial combination. Brackets around generic names in # host entries are used to distinguish *generic* synonyms from *subgeneric* (parentheses) names under which the specific name has been classified.

& Male.

9 Female.

♥ Hermaphrodite.

^a Name is antedated by another available name, hence it is a synonym.

Abd. cav. Abdominal cavity.

b Better or preferred name, under present nomenclatorial data.

° A variant or changed spelling, used by some authors; it should be eliminated from future literature except in direct quotation or historical data, such as reviews and tables of synonymy.

d Dead name; it should be eliminated from future literature except in direct quotation or historical data, such as reviews and tables of synonymy. See

also h, m, p.

e Emendation of name originally printed with some other spelling.

Etd. or etd. Erroneous type designation, including pseudotype.

Exp. Experimental, experimentally.

Ext. External.

^h Homonym, hence dead name; see also ^d. Art. 35 (International Rules).

Name or systematic position or host determination is sub judice for this species or other unit quoted.

Name used in a broad taxonomic sense (sensu lato), as of earlier authors, especially prior to 1870.

^m Obvious misprint; see ^d.

Misdet. Misdetermined.

Mt. or mt. Type by monotypy; i. e., only one definite species was cited at time of original publication of generic name. Same as haplotype, monogenotype, monobasic. Art. 30c.

Musc. Muscles or muscular.

ⁿ No opinion expressed here.

[nv] Not verified.

Objective (absolute) synonym, as in case of renaming a genus or species, or the genus has the same type species as another genus.

Polynomial name, hence dead name; see d.

Periton. Peritoneum.

q. v. Quod vide, which see.

r Name used in restricted taxonomic sense (sensu restricto) as of later authors, especially since 1900.

⁸ Subjective synonym, generally admitted as such, or at least by some authors.

seu Or.

S. South, or synonym.

So. or so. Synonym of.

Stom. Stomach.

Sub cut. Subcutaneous.

Type species of genus, or type locality.

Tat. or tat. Type by absolute tautonymy. Art. 30d (International Rules).

T. h. or t. h. Type host.

Tod. or tod. Type by original designation. Same as orthotype, autogenotype. Art. 30g.

Tpd. or tpd. Type by present designation. Art. 30g.

Tsd. or tsd. Type by subsequent designation. Same as logotype, idiogenotype. Art. 30g.

Tvd. or tvd. Type by virtual tautonymy. Art. 30i (International Rules).

v Valid name under International Rules.

Ventric. Stomach.

To trace the names and literature of the parasites, consult the catalogs, etc., mentioned on pages 1-2, of Bulletin 140, Hygienic Laboratory, and also the following Key-Catalogs of the—

Protozoa Reported for Man<Bul. 140, Hygienic Laboratory, 1925.

Worms Reported for Man < Bul. 142, Hygienic Laboratory, 1926.

Crustacea and Arachnoids of Importance in Public Health < Bul. 148, Hygienic Laboratory, 1927.

Insects of Importance in Public Health < Bul. 150, Hygienic Laboratory, 1928. Parasites reported for *PRIMATES* (monkeys and lemurs) with their possible public-health importance < Bul. 152, Hygienic Laboratory, 1929.

Parasites reported for CHIROPTERA (bats) with their possible public-health

importance Sul. 155, National Institute of Health, 1931.

Parasites reported for INSECTIVORA (moles, shrews, etc.) with their possible public-health importance Sul. 159, National Institute of Health, 1932.

To trace the names of the hosts, see especially—

Miller, 1924a. List of North American Recent Mammals < Bul. 128, U. S. National Museum.

Palmer, 1904a. Index Generum Mammalium North American Fauna, No. 23. Sherborn, 1902a. Index Animalium, Sectio 1, 1758–1800; 1922a–1929a, Sectio 2, 1800–1850.

Trouessart, 1897c. Catalogus Mammalium tam Viventium quam Fossilium.

Trouessart, 1904c. Catalogus Mammalium tam Viventium quam Fossilium (supplement).

Carnivora < Zoological Record, 1864 to 1929.

In the side headings for the hosts, the synonymy is shown in condensed form; for instance (see p. 1126)—

#483 **Fennecus** [or *Megalotis*, Vulpes h] (*Megalotis*) **zerda** (Zimm., 1780, Geograph. Geschichte, v. 2, 247 [Canis l]) Lesson, 1842, 39

shows that the species known as zerda Zimm., 1780, was originally proposed as Canis ¹, was transferred by Lesson, 1842, 39, to Fennecus, has been classified generically also in Megalotis and Vulpes ^h, and subgenerically in Megalotis.

We have endeavored, by use of [] and (), to avoid making new

combinations of host names.

Classification.—In preparing the classification and keys to the carnivora we have consulted a great mass of the world's literature. For lists and summaries, see especially the following:

Gill, 1872a, Arrangement Families Mammals Smiths. Misc. Coll., no. 230. Miller, 1912a. Catalog of the Mammals of Western Europe, *CARNIVORA*, pp. 283–480, figs. 50–100.

Miller, 1924a. List of North American Recent Mammals Sul. 128, U.S. Nat.

Mus., pp. I-XVI, 1-673.

For general discussions of the carnivora, the reader is referred also to—

Cabrera, 1931, J. Mamm., v. 12 (1), Feb., 54-67.

Flower & Lydekker, 1891a. An Introduction to the Study of Mammals, Living and Extinct, pp. i-xvi, 1-763.

Leunis, 1883a. Synopsis der drei Naturreiche, v. 1, pp. I-XV, 1-1083.

Pocock, 1929a < Encycl. brittanica, ed. 14, v. 4, 896-901.

Pratt, 1923a. A Manual of the Vertebrates of the United States. *CARNIVORA*, pp. 273-296, figs. 156-159.

Purpose of the present bulletin.—See p. 413, Bul. 152.

The public health importance of cats, dogs, and various other carnivores is rather extensive. For instance, these animals come into consideration A, as food; B, as beasts of prey; C, as distributors of parasitic diseases to man and to various animals used by man as food; D, as domesticated animals; E, as scavengers.

- A. Carnivores as food.—A number of carnivores are used as food by man; bear meat especially is relished by many persons. Various domesticated and wild dogs are used as food in different countries; while dog meat is not a recognized article of diet under the meat inspection laws of the United States there are special meat inspection regulations covering this subject in certain countries of Europe; for instance, dogs slaughtered for food must be killed and dressed in certain restricted portions of slaughterhouses; dog casings are forbidden in making of sausage; isolated instances of house slaughtering of pet dogs for food occasionally occur in the United States. In general the precautions advisable for thoroughly cooking pork should be applied in cooking dog meat. Dressed cats have occasionally found their way into the meat market, being sold as "rabbits", but this fraud has practically been eliminated by the food inspection laws.
- B. Carnivores as beasts of prey or predatory animals.—The cat is one of the great destroyers of birds. Dogs, wolves, and their allies and some of the felines come into serious consideration in connection with the destruction of sheep and of some of the wild food animals such as deer. The name Carnivora indicates the food habit of these animals as flesh-eating animals and at times their depredations are important economically. Many of the wild carnivores are dangerous because of their attacks on man.
- C. Carnivores as distributors of parasitic diseases.—A considerable number of parasites are distributed to man and livestock and to wild animals by various carnivores. Thus hydatid disease in man and many other animals, gid in sheep and their allies, one form of pseudotuberculosis in cattle, hydrophobia in man and livestock, several intestinal worms in man and a number of acarine infectious in man and various other animals are disseminated by the carnivores, especially by the dog and its allies.
- D. Carnivores as domesticated animals.—The dog plays many roles, for instance, as household pet, companion, watchdog, beast of burden, messenger, aid to the blind, hunting dog, following and capturing

criminals, etc. His long association with man as friend and companion and the various ways in which he helps man has blinded altogether too many people to the damage he does to mankind. The cat is a valuable aid in the destruction of certain household pests such as nrice. Various other carnivores are domesticated or semi-domesticated and trained to the hunt.

E. Carnivores as scavengers.—In practically every country both cats and dogs act as scavengers around the home, visiting the slop pails. In some countries semiwild dogs roam the streets and are important factors as scavengers. The question as to whether or not they become infected from the garbage pails depends upon the particular meat which they find; for instance, in case they eat pork or rats and mice, both cats and dogs are liable to become infected with trichiniasis, but since these two carnivores are not ordinarily used as food, they cannot play an important role in the spread of this disease to man.

The reliability of host determinations.—See p. 414, Bul. 152. Undoubtedly, some of the Latin names cited by authors on basis of the vernacular names cited by other authors are sub judice. Nevertheless we have quoted in this bulletin the Latin names in question since they are matters of public record. In an effort to record under the proper Latin names of the hosts parasites for which we have found only vernacular names of the hosts, we have encountered the greatest of difficulty. Generally we have entered these under an indefinite entry such as Felis species, Canis species, etc. It is to be taken for granted that some of the entries will prove to be duplicates and some sub judice. But it has been impossible to avoid this condition in view of the indefinite nature of certain original reports.

The following is a list of animal parasites which are reported both for carnivores and for man. Some of these parasites are more or less common in man, some are very rare, some are purely experimental either in man or in the carnivores.

†23 to †212. PROTOZOA—

†37. Endamoeba eoli exp., [dispar * exp.], dysenteriae d, gingivalis, histolytica.

†39. Endolimax phagocytoides.

†88. Leishmania archibaldi exp., braziliensis exp., donovani, furunculosa *, infantum, tropica.

†94. Trypanosoma brucei, gambiense, ninae-kohl-yakimov* exp., rhodesiense*.

†95. Sehizotrypanum cruzi.

†131. Trichomonas buccalis exp., hominis exp.

†139. Giardia enterica, intestinalis d, lamblia exp.

†142f. Treponema¹ aboriginale, eurygyratum, icterohaemorrhagiae, icteroides s, interrogans
exp., microgyratum exp.,
morsus-muris, pallidum
exp., vincenti.

Pseudospirochaetes species Brumpt exp.

Spirochaeta 1 species Kermogant exp.

†161. Isospora belli exp., bigemina, rivolta.

†163. Eimeria perforans, stiedae.

†170. Plasmodium vivax exp.

†212. Encephalitozoon rabici.

†212. Glugea lyssae°.

†221 to †282. TREMATODA-

<†239A". Microphallus minus.

†246. Fasciola hepatica.

†248. Fasciolopsis buski.

†250. Paragonimus pulmonalc s, [pulmonis s], ringcri, westermani.

<†252. Echinoparyphium koidzumii.

†255. Echinostoma revolutum.

†262. Echinochasmus japonicus, perfoliatus.

†267. Opisthorchis caninus, conjunctus, fclineus, noverca, Distoma ¹ [sibiricum ^s], Opisthorchis viverrini.

†268. Clonorchis endemicus s, sinensis.

†270. Pscudamphistomum truncatum.

†271L. Centrocestus armatus, [formo-sanum].

†272. Heterophyes heterophyes, katsuradai, nocens.

†273. Metagonimus ovatus, yokogawai.

<†271. Monorchotrcma taichui, taihokui.

Pygidiopsis summus.

†277. Dicrocoelium dendriticum, lanceatum⁸.

†281. Schistosoma hacmatobium, japonicum.

†283 to †327. CESTODA—

†295. Diphyllobothrium houghtoni, latum, mansoni.

†308. Dipylidium caninum.

†314. Hymenolepis diminuta, nana.

†322. Echinococcus alveolaris s, echinococcus s, granulosus, multilocularis, polymorphus s.

†324. Multiceps multiceps, scrialis.

†325b. Taenia (Taenia) hydatigena, marginata *, pisiformis, solium.

†325c. Taenia (Hydatigera) crassicollis*, tacniaeformis.

†325d. Taenia (Taeniarhynchus) saginala[†].

†326. Cysticercus cellulosae, tenuicollis.

†329 to †495. NEMATODA—

†339. Rhabditis pellio.

†355. Strongyloides fülleborni, intestinalis *, longus *, stercoralis, [strongyloides*].

†366. Trichinella [pubis], spiralis.

†370. Trichuris affinis *, [dispar o].

†372. Hepaticola hepatica.

†387. Ancylostoma brasiliense, caninum, ceylanicum*, duodenale, malayanum.

†390. Necator americanus.

390B. Uncinaria stenocephala.

†417. Haemonchus contortus.

†426. Dioctophymc renale.

†439. Dracunculus medinensis.

449A. Dirofilaria immitis.

†464. Thelazia callipaeda, [circumo-cularis,] [palpebralis^h].

†473. Gnathostoma spinigcrum.

†481. Ascaris lumbricoides.

†484. Toxocara [brachyoptera *], canis, [cati,] leptoptera *, [tricuspidata *].

†486. Toxascaris [alata *,] [caniculae *,] canis d, [fclis *,] limbata *, marginata d *, microptera.

†492. Enterobius vermicularis.

†494. Syphacia obvelata.

†501 to †508. ACANTHOCEPIIA-LA—

†505. Moniliformis moniliformis.

†508. Macracanthorhynchus [gigas,] hirudinaceus.

†540 to †563. HIRUDINEA—

†547. Limnatis nilotica.

†552. Hacmadipsa japonica, japonica taiwana, zeylanica.

†729 to †996. ARACHNIDA—

†796. Armillifer armillatus, moniliformis.

†798. Porocephalus crotali.

†800. Linguatula rhinaria*, scrrata, tacnioides .

†855. Demodex follieulorum.

†861. Argas vespertilionis.

†862. Otobius megnini.

†863. Ornithodoros maroccanus, monbata, savignyi.

†866. Ixodes bicornis, cookei *, cruciarius *, hexagonus, holocyclus, pilosus, rasus, reduvius *, ricinus, scapularis. †869. Hacmaphysalis leachi, leporispalustris, punctata.

†873. Dermacentor americanus d, andersoni, auratus, electus d, occidentalis, reticulatus, variabilis, venustus d d.

†874. Rhipicentor bicornis.

†875. Rhipiccphalus appendiculatus, bursa, evertsi, hacmaphysaloides, pulchellus, sanguineus, simus.

†878. Boophilus annulatus, australis, decoloratus, microplus.

†880. Hyalomma aegyptium acgyptium, impressum.

†881. Amblyomma americanum, cajennense, fossum, maculatum, ovale, rotundatum, striatum, [unipunctata*,] variegatum.

†8911. Ceratonyssus musculi.

†895. Dermanyssus gallinae.

†936. Notoedres cati, [notoedres *,] [minor °].

†942. Sarcoptes canis s, minor cuniculi h, ovis, scabei, scabei canis h, scabei hominis s, scabei lconis, scabei lupi, scabei vulpis.

†949. Tydeus molestus.

†964. Metathrombium poriceps.

†970. Trombicula akamushi, autumnalis.

†974. Microtrombidium pusillum.

†977. Trombidium striaticeps.

†996. Cheyletus eruditus.

†1048 to †1706. INSECTA—

†1100. Trichodectes canis.

†1107. Phthirus pubis.

†1153. Triatoma megista.

†1459. Aëdes fasciata 8.

†1460. Anopheles superpictus.

†1480. Simulium pertinax, venustum.

†1487. Tabanus gratus.

†1572. Gastcrophilus intestinalis.

†1574. Oestrus ovis.

†1575. Dermatobia cyaniventris, noxialis.

†1580. Auchmeromyia lutcola.

†1581A. Cochliomyia macellaria.

†1587. Sarcophaga carnaria, ruficornis.

†1591. Wohlfartia magnifica.

†1599. Cordylobia anthropophaga.

†1601. Glossina brevipalpis, longipalpis, longipennis, morsitans, pallidipes, palpalis, tachinoides.

†1611. Pycnosoma flaviceps.

†1613. Stomoxys calcitrans.

†1617. Hippobosca canina s, capensis, equina, maculata.

†1624. Leptopsylla musculi s.

<†1626. Chiastopsylla rossi.

< †1626. Oropsylla [acutus *].

< †1626. Paradoxopsyllus curvispinus.</pre>

†1627. Ceratophyllus acamantis, fasciatus, gallinae.

†1628. Hoplopsyllus anomalus.

†1631. Tunga penetrans.

†1633. Echidnophaga gallinacea.

†1635. Pulex irritans.

†1635A. Rhopalopsyllus lugubris, sigmodoni.

†1636. Xenopsylla astia, brasiliensis, cheopis, eridos.

<†1634. Synosternus pallidus.

†1638. Archaeopsylla erinacei.

†1639. Ctenoccphalides canis, [enneodus °,] felis, [novcmdcntatus °,] [serraticeps °].

<†1634. Spilopsyllus cuniculi.

CLASSIFICATION OF PARASITES OF CARNIVORES

In the following classification of the parasites reported for carnivores (pp. 923 to 1031), the arrangement given in Bulletins 140, 142, 148, 150, 152, 155, 159 is taken as basis; key characters and diagnoses down to additional genera reported for carnivores but not included in the earlier bulletins are inserted and collateral groups have been placed in footnotes.

Under genera, the specific names are arranged alphabetically and the hosts are cited for which the species have been reported.

By following the dagger (†) preceding the specific names (indicating that the species has been reported for man), the possible relations of the various hosts to the diseases of man can be traced.

#406 (316). Order FERAE¹ Linn., 1758a, 18, 37, tpd. Canis; or CARNIVORA¹ of Gray, 1827, Griffith's Cuv., Anim. Kingd., v. 5, 111, tpd. Canis.—Examples, bears, cats, dogs, seals, etc. Unguiculate; at least 4 toes on each foot, with more or less pointed nails (rarely rudimentary or absent); pollex and hallux never opposable to other digits. Diphyodont, heterodont, teeth with roots; incisors 3/3, small, pointed, 1st smallest, 3rd largest; canines 1/1, strong, conical, recurved; eheek teeth variable. Condyle of lower jaw a transverse half-cylinder, working in a deep glenoid fossa. Brain with well-marked convolutions. Stomach simple, pyriform. Vesiculae seminales absent. Uterus bicornuate; mammae abdominal; placenta deciduate, usually zonary. Clavicle never complete; radius and ulna distinet; seaphoid and lunar united; os centrale absent in adult; fibula slender. Predaceous. See #407. Syn. ICHTHYOIDEA Kaup, 1855, fide Kretzoi, 1929, Xth Internat. Congr. Zool., Budapest, pt. 2, 1348.

#407 (407a; b; 577). Order or Subo. CARNIVORA **34 Gray, 1827, Griffith's Cuv., Anim. Kingd., v. 5, 111, tpd. Canis; or Subo. CARNIVORA VERA **0; or FISSIPEDIA **0.—Carnivores; Raubthiere. Terrestrial (rarely aquatic or semi-aquatic), nonvolant, placental mammals with rather high development of brain, the cerebral hemispheres with distinct convolutions; feet unguiculate, never modified as fins or flippers; dentition of a modified tuberculo-sectorial type, the posterior upper premolar and anterior lower molar usually developed as special carnassial or flesh-cutting teeth. Continents and larger islands of entire world, Australia, New Zealand, and Antarctic region excepted. See A also #408.

² 407a (407; b). Ord. or Subo. PINNIPEDIA Illiger, 1811, Prodr. Syst. Mamm. et Avium, 138, tpd. Phoca.—Pinnipeds, "Amphibious earnivora," seals, walruses, Flossenfüsser, Ruderfüsser. Body prone Legs fin-like for swimming, enclosed to or heyond elbows in common integument. Feet rotated backward; fingers and toes wehbed; fingers decrease in length and size from I to V; toes I and V longest and largest, II to IV shorter and subequal. Iliac portion of pelvis very short, anterior border much everted; ischia never aneylosed, never meeting, in ♀ widely separated. Skull greatly compressed interorbitally; facial portion usually short and rather broad; brain case abruptly expanded. Lachrymal bone early united with maxillary, imperforate, entirely within orbit. Palatines not extending forwards laterally, extensive vacuities interveuing hetween frontal and maxillary bones. Tympanic separated from exoecipitals by a vacuity as well as by the re-entering periotic bones. All 3 types of teeth present; deciduous dentition rudimentary; generally not persistent beyond foetal stage of animal. Mammac 1 pair or 2 pairs, abdominal. Decidua present, placenta belt-shaped. Marine. See #577.

#407b(407; a). Subo. CREODONTA Cope, 1875, Supposed Carnivora of Eocene Rocky Mts., 3.— Extinct carnivores. Brain small, narrow, the cerebral lohes smooth or with one principal sulcus and entirely covered by the parietal bones. Tympanic hulla not ossified. Seaphoid, lunar and centrale separate (scaphoid and centrale united in Claenodon and Palaearctonyx; seaphoid, lunar and centrale in one species of Vulpavus, and exceptionally in Hyaenodon). Astragalar trochlea flat (exc. Didymictis, Viverravus and the later MESONYCHIDAE). Digits 5-5 (except in MESONYCHIDAE where the first digit is vestigial in both fore and hind foot). An entepicondylar foramen on humerus (except Mesonyx) and usually a third trochanter on femur.

³ Some authors divide the existing *CARNIVORA* into 3 sections as follows:

Section I. AELUROIDEA Flower, 1869, Proc. Zool. Soc. London, 22; or Herpestoidei Winge, 1893, Jordf. Nulevende Pungdyr, 46 so. Herpestoidea Pocock, 1919, Ann. Mag. Nat. Hist., v. 3 (18), June, 515; or mungotoidea Pocock, 1919, Ann. Mag. Nat. Hist., 9th scr., v. 3 (18), 515. Includes the felidae, viverridae, proteleidae and the hyaenidae. Cat-like carnivores. Auditory bulla much dilated, rounded, smooth, thin-walled, and (except in hyaenidae) divided into two chambers by a septum. Bony auditory meatus short. Paroccipital process applied to, and spread over hinder part of bulla. Mastoid process never very salient, ofteu obsolcte. Carotid canal small, sometimes very inconspicuous. Condyloid and glenoid foramina concealed or absent. Ceeum small, rarely absent. Os penis generally small and irregular (large in *Cryptoprocta*) or absent. Cowper's glands present; prostate distinctly lobed.

Section II. CYNOIDEA Flower, 1869, Proc. Zool. Soc. London, 24.—Contains one family, CANIDAE. Dog-like animals, which appear to hold an intermediate position between AELUROIDEA and ARC-TOIDEA. Auditory bulla inflated, internal septum rudimentary; paroceipital process, although in contact with bulla, prominent; glenoid foramen largo. Entepieondylar foramen absent (in living genera); erowns of upper molars triangular, blade of upper carnassial bilobed. Ceeum always present, sometimes short and simple, if long it is folded upon itself. Ceeum of nearly uniform width (about equal to that of ileum), with rounded termination, attached to side of canal, just beyond ilco-caecal valve.

Section III. ARCTOIDEA Flower, 1869, Proc. Zool. Soc. London, 15.—Includes ursidae, procyonidae and mustelidae. Auditory bulla simple, not rounded, dividing septum absent; inferior lip of auditory meatus cousiderably prolouged; paroccipital process of exoccipital more or less triangular, directed backward, outward, and downward, and standing quite apart from bulla; mastoid process of periotic always widely separated from paroccipital, and generally very prominent; carotid foramen large, and placed on inner margin of bulla, usually near middle, but occasionally more posteriorly; condyloid foramen distinct aud exposed, and never sunk into a common opening with foramen lacerum posticum; glenoid foramen always present, usually conspicuous. Alisphenoid canal absent except in Ursus, Melursus, and Aelurus. Cecum absent. Cowper's glands absent, but rudimentary prostate and large cylindrical penial bone present. Toes 5 on each foot, completely developed.

Cope (1882, Proc. Amer. Phil. Soc., Phila., v. 20, 473-475) keys the CARNIVORA as follows:

a' (n'). HYPOMYCTERI Cope, 1882, Proc. Amer. Phil. Soc., v. 20, 473.—External nostril occupied by complex maxilloturbinal bone; ethinoturbinals confined to posterior part of nasal fossa; inferior ethinoturbinal of reduced size. See b'.

b' (c'). CERCOLEPTIDAE Bonaparte 1838, Nuovi Ann. Sci. Nat., Bologna, v. 2, 111.—Sectorial [earnassial] teeth absent. Toes 5 on front feet, 5 on hind. Neotropical. Contains *Cercoleptes*. Syn. CERCOLEPTIDIDAE® Bonaparto, 1838, Revue Zool., v. I, 212.

c' (b'). Sectorial teeth in both jaws. See d'.

- †23 to †212. *PROTOZOA*,⁵ pp. 7-57, 420-438, 609-612, 798-802.
- †37. Endamoeba, pp. 8, 420.
 - †*coli, pp. 8, 421: Endamoeba.— Reported for: #413 Felis (catus [dom.] exp.). Continued in later bulletins.
 - [†coli d restricted to pathogenic species [p. 8]: Amoeba —Reported for: #479 Canis (familiaris exp.).]
 - [†dispar *, p. 421: Entamoeba °.— Reported for: #413 Felis (catus [dom.] exp.).]
- [†*dysenteriae d, pp. 8, 421: Entamocba e.—Reported for: #413 Felis (catus [dom.] exp.); #479 Canis (familiaris); #528 Meles (meles s. taxus). Continued in later bulletins.]
- [*enterica Walker, 1908a, 429, 430, 443-444, pl. 23, fig. 9 [Ameba ¹]: Amoeba; Löschia ^{*}; Loeschia ^{*}.—Cambridge ^t.—Reported for: #413 Felis (catus [dom.]). Continued in later bulletins.]
- d'(m'). Toes 5 on front feet, 5 on hind. See e'.
- e'(j'). Alisphenoid canal absent. Sec f'.
- f' (g'). PROCYONIDAE Bonaparte, 1850, Conspectus Syst. Mastozoöl., etc.—True molars 2/2. Contains: Procyon (including Nasua), Bassaricyan, Bassarish; Nearetic and Neotropical.
 - g'(f'). MUSTELIDAE Swainson, 1835, Nat. Hist. Class. Quadr., pp. vii, 361.—True molars 1/2. See h'.
- h' (i'). Melinae Baird, 1857, Mamm. N. Amer., 148, 190.—2 tubereles of internal side of superior sectorial. Contains: Taxidea, Meles.
- i' (h'). MUSTELINAE Swainson, 1835, Nat. Hist. Class Quadr., pp. vii, 362.—1 internal tuberele of superior sectorials. Contains: Enhydris, Pteronura, Lutra, Aonyx, Barangia; Heliclis, Zorilla, Mephitis, Conepalus; Mellivora; Gulo, Galictis, Putorius, Mustela.
 - j'(e'). Alisphenoid eanal present. See k'.
- k' (l'). AELURIDAEº Cope, 1882, Proc. Amer. Phil. Soc., Phila., v. 20 (112), 473.—Molars quadrate, 2/2. Contains: Acturusº; Acturopoda, ?Hyacnarctos.
- l' (k'). URSIDAE Gray, 1825, Thompson's Ann. Phil., n. s., v. 10 (5), Nov., 339.—Molars longitudinal, 2/3 Contaius: Helarctos; Arctotherium; Ursus; Metursus.
- m'(d'). Canidae Gray, 1821, London Med. Repository, v. 15, 301.—Toes 5-4 or 4-4. Sectorials well developed, alisphenoid canal present. Contains: Megalotis; Amphicyon; Thous, Palaeocyon, Temnocyon, Galecynus, Canis, Vulpes, Enhydrocyon, Hyaenocyon, Brachycyon, Tomarctus, Speothus, Synagodus, Dysodus, Oligobunis, Icticyon, Lycaon.
- n'(a'). EPIMYCTERI Cope, 1882, Proc. Amer. Philos. Soc., v. 20, 473.—External nostril occupied by inferior ethmoturbinal and reduced maxilloturbinal. See a'.
- o' (p'). PROTELIDAE Flower, 1869, Proc. Zool. Soc. London, 37.—Molars haplodont. Toes 5-4; alisphenoid canal absent. Contains: *Protetes*, Ethiopian.
 - p'(o'). Molars bunodont. See q'.
- q'(r'). ABCTICTIDAE Cope, 1882, Proc. Amer. Philos. Soc., Phila., v. 20 (112), 474.—Sectorials absent. Toes 5-5; alisphenoid eanal present. Contains: Arctictis, India.
 - r'(q'). Sectorials present. See s'.
 - s'(c''). Otic bulla with septum. See t'.
 - t^{\prime} $(b^{\prime\prime}).$ Alisphenoid can al and postglenoid foramen present. Sec $u^{\prime}.$
 - u'(y'). True molars well developed. See v'.
- v' (w'; x'). Viverridae⁶ Gray, 1821, London Med. Repository, v. 15, 301 [Viveridae⁴].—Toes 5-5. Contains: Cynogale, Arctogale, Paguma, Paradoxurus, Nandinia, Hemigale, Calidia, Prionodon, Genetla, Viverricula, Viverra, Galidictis, Herpestes, Athylax, Calogale, Ichneumia, Bdeoyale, Urva, Taeniogale, Onychogale, Helogale, Rhinogale, Mungos, Crossarchus, Eupleres.
- w'(v'; x'). CYNICTIDAE Cope, 1882, Proc. Amer. Philos. Soc., Phila., v. 20 (112), 474.—Toes 5-4. Contains: Cynictis, ?Ictitherium.
- x' (v'; w'). SURICATIDAE Cope, 1882, Proc. Amer. Philos. Soc., Phila., v. 20 (112), 474.—Tocs 4-4. Contains: Suricata, Ethiopian.
 - y'(u'). True molars much reduced. Sec z'.
- z' (a''). CRYPTOPROCTIDAE Flower, 1869, Proc. Zool. Soc. London, 37.—Toes 5-5. Contains: Proacturus; Cryptoprocta.
- a" (z'). MIMRAVIDAE Cope, 1881, Bul. U. S. Geolog. & Geogr. Surv. Territories, v. 6 (1), Feb. II, 167.—Toes 5-4. Contains: Archaelurus, Nimravus, Aelurogale; Dinictis, Paganodon, Haplophoneus.
- b" (t'). Felidae Gray, 1821, London Med. Repository, v. 15, 302.—Alisphenoid canal absent; postglenoid forameu rudimental or absent. Toes 5-4. Contains: Machaerodontinae (Machaerodus, Smilodou); Felinae (Plethaelurus, Catolynx; Felis; Neofelis; Uncia, Lynx, Cynaelurus).
- c" (s'). HYAENDAE Flower, 1869, Proc. Zool. Soc. London, 28, 29, 35. Otic bulla without septum. Alisphenoid canal absent, postglenoid foramen absent. Toes 4-4. Contains: Hyaenictis, Hyaena, Crocuta. ⁵ The cross reference to the protozoa has been prepared by Lucy Reardon.

*gcdoclsti Hsiung, 1930, Iowa State Coll. J. Sei., v. 4 (4), 365–366, pl. 1, fig. 1, Amoeba intestinalis h of Walker, 1908; Gedoelst, 1911 [not R. Bl., 1885] renamed: Endamocba.— U. S. A.t—Reported for: #413 Fclis (catus [dom.]). Continued in later bulletins; Equus (caballus t. h.).

†*gingivalis, p. 9: Endamoeba.— Reported for: #413 Fclis (catus [dom.]); #479 Canis (familiaris

exp.).

†*histolytica, pp. 9, 421: Endamocba.— Reported for: #413 Felis (catus [dom.] also exp.); #479 Canis (familiaris also exp.). Continued in later bulletins.

[intestinalis ho Walker, 1908a, 445, pl. 23, fig. 8 [Ameba 1]; Gedoelst, 1911a, 33; [renamed gedoclsti Hsiung, 1930]: Amoeba 1 (Entamocba).—Reported for: #413 Felis (catus [dom.]). Continued in later bulletins.]

*murina Chiang, 1925, Proc. Nat. Acad. Sci., v. 11 (5), May, 242–243, pl. 1, figs. 7–12: Endamocba histolytica.—Boston t.—Reported for: #413 Fclis (catus [dom.] exp.). Continued in later bulletins.

[species Dold & Fischer, 1920, Centralbl. Bakt., Orig., I Abt., v. 85 (3), Nov. 1, 199: Amöben.— Shanghai.—Reported for: #479 Canis (familiaris).]

[species Houdemer, 1925, Bul. Soc. Path. exot., v. 18 (4), post Apr. 8, 346-347: Entamocba o.—Tonkin.—Reported for: #413 Felis (catus [dom.], pardus); #479 Canis (familiaris).]

[venaticum * [p. 10] Darling, 1915, Proc. Med. Assoc. 1sthm. Canal Zone, v. 6 (1), 60: Entamoeba °.— Panama t.—Not d i f f e r entiated from E. histolytica, fide Wenyon, 1926a, 227.—Reported for: #479 Canis (familiaris).]

†39. Endolimax, pp. 10, 422.

†phagocytoides, pp. 11, 423: Endolimax.—Reported for: #479 Canis (familiaris). †64. Amoeba 1, pp. 14, 423.

*fecalis Walker, 1908a, 386, 389, 393, 429, 444, pl. 24, figs. 13–14 [Ameba ¹]: Amocba ¹; ?Löschia.—Reported for: #413 Fclis (catus [dom.]); #479 Canis (familiaris).

[*species Ackley, 1913, Amer. J. Vet. Med., v. 8 (4), Apr., 244-246: Ameba '.—Washington State, U. S. A.—Reported for: #479 Canis (familiaris).]

[species Franchini, 1922, Bul. Soc. Path. exot., v. 15 (10), post Dec. 13, 931–933, fig. 1 ["amibes"]: [Amoeba 1].—Reported for: #413 Felis (catus [dom.] exp. from plants).]

<†86. Leptomonas, p. 424.

ctcnocephali p. 424: Leptomonas.—Reported for: #479 Canis (familiaris exp.). Continued in later bulletins.

†88. Leishmania, pp. 17, 424, 609.

†archibaldi, pp. 17, 424: Leishmania donovani.—Reported for: #479 Canis (familiaris exp.).

†braziliensis, pp. 17, 424 (also brasiliensis e): Lcishmania.—Brazil t.—Reported for: #479 Canis (familiaris exp., also suspected reservoir). Continued in later bulletins. Exp. transmission by †1447 Phlebotomus intermedius.

canina Yakimoff & Schokhor, 1914, Bul. Soc. Path. exot., v. 7 (3), post Mar. 11, 186-187: Leishmania tropica.—Turkestan t.—No evidence of difference from L. tropica, fide Wenyon, 1926a, 430.—Reported for: #479 Canis (familiaris t. h.).

canis "Nicolle 1908" of authors [nv]: Leishmania.—Reported for: #479 Canis (familiaris).

†donovani, pp. 17, 424, 609: Leishmania.—Reported for: #413 Felis (catus [dom.]); #479 Canis (familiaris, species (jackals) exp.). Continued in later bulletins.

tfurunculosa * [p. 17] Firth, 1891, Brit. Med. J., 60-62, figs. 1-5: Leishmania.—Reported for: #479 Canis (familiaris).

- †infantum, pp. 18, 424: Herpetomonas *; Leishmania. Reported for: #413 Felis (catus [dom.]); #479 Canis (familiaris considered chief reservoir).
- species Gachet in Neveu-Lemaire, 1927, Ann. Parasitol., v. 5 (3), 255: Leishmania.—Uleers.—Oriental boil region.—Reported for: #479 Canis (familiaris). Continued in later bulletins.
- †*tropica, pp. 18, 424: Leishmania.— Reported for: #413 Felis (catus [dom.] exp.); #479 Canis (familiaris also exp.).

†89. Toxoplasma, pp. 18, 425.

- canis Mello, 1910, Bul. Soc. Path. exot., v. 3 (6), post June 8, 359–363: Toxoplasma.—Turin^t.—Reported for: #479 Canis (familiaris t. h.).
- gondii [also gondei e], p. 798: Toxoplasma.—Reported for: #479 Canis (familiaris exp.). Continued in later bulletins.
- species Plimmer, 1915, Proc. Zool. Soc. Lond., 130: Toxoplasma.—London Zoo.—Reported for: #444 Cryptoprocta (ferox).

†91. Herpetomonas, pp. 18, 425.

- *pattoni Swingle, 1911, J. Infect. Dis., v. 8 (2), Jan. 25, 127, figs. 35-61: Herpetomonas.—Lincoln ^t, Nebraska.—Reported for: #479 Canis (familiaris ⁱ). Continued in later bulletins; †1627 Ceratophyllus (species) or †1635 Pulex (species) t. h. Also for #12 Homo ⁱ.
- phlebotomi ⁸ Mackie, 1914, Ind. J. Med. Res., v. 2 (1), July, 379, pl. 48: Herpetomonas.—Madras¹.—So. †108 Bodo phlebotomi q. v., fide Short in Wenyon, 1926a, 436.—Reported for: #479 Canis (familiaris exp.).
- †94. Trypanosoma, pp. 20, 425, 609.
 - anceps 18 Bruce et al., 1914, Proc. Roy. Soc., Lond., Ser. B, v. 88 (601), Aug. 27, 111–138, pls. 9–11; 1915, Rep. Sleep. Sickness Comm., No. 16, 134: Trypanosoma.—Nyasaland 1.—So. T. brucei, fide Wenyon, 1926a, 530.—Reported for: #479 Canis (familiaris t. h.). Continued in later bulletins.

- annamense * Laveran, 1911, Ann. Inst. Pasteur, v. 25 (7), July, 513: Trypanosoma.—Annam t.—So. evansi, fide Wenyon, 1926a, 566.—Reported for: #479 Canis (familiaris). Transmission by: †1486 TABANIDAE, †1616 HIPPOBOSCIDAE. Continued in later bulletins; EQUIDAE or BOVIDAE t. h.
- berberum ⁸ E. & E. Sergent & L'Héritier, 1912, Bul. Soc. Path. exot., v. 5(5), post May 8, 274–278: Trypanosoma soudanense.—N. Africa ^t.—So. evansi, fide Wenyon, 1926a, 566.—Reported for: #479 Canis (familiaris exp.). Continued in later bulletins; Camelus dromedarius t. h. Vectors: †1487 Tabanus (nemoralis exp.); †1613 Stomoxys exp.
- †brucei, pp. 20, 425: Trypanosoma.—
 Reported for: #413 Felis (catus [dom.] exp.); #469 Hyaena (crocuta); #479 Canis (familiaris exp.); #485 Vulpes (species also exp.).
 Continued in later bulletins.
- cazalboui s, p. 425: Trypanosoma.—So. vivax, fide Wenyon, 1926a, 559.—Reported for: #479 Canis (familiaris). Continued in later bulletins; Ovis (aries t. h.).
- congolense, pp. 425, 609: Trypanosoma.—Reported for: #469 Hyaena (crocuta); #479 Canis (familiaris exp.). Continued in later bulletins; Equus (asinus t. h.).
- dimorphon s, p. 425: Trypanosoma.— So. congolense, fide Wenyon, 1926a, 552.—Reported for: #479 Canis (familiaris). Continued in later bulletins.
- equinum, p. 425: Trypanosoma.— Reported for: #479 Canis (familiaris exp.). Continued in later bulletins; Equus (caballus t. h.).
- equiperdum, p. 426: Trypanosoma.— Reported for: #413 Felis (catus [dom.] exp.); #479 Canis (familiaris exp.). Continued in later bulletins; Equus (caballus t. h.).
- evansi, p. 426: Trypanosoma.—Reported for: #413 Felis (catus [dom.] exp.); #479 Canis (familiaris). Add vector, p. 426, †1608

Philacmatomyia crassirostris. Continued in later bulletins.

frobeniusi * Weissenborn, 1911, Arch. Schiffs-Trop.-Hyg., v. 15 (15), 477-497, pl. 5 [frobenius]: Trypanosoma.—Hamburg Zoo *, from Togo, W. Africa.—So.* congolense, fide Wenyon, 1926a, 552.—Reported for: #413 Felis (catus [dom.] exp.); #479 Canis (familiaris exp.). Continued in later bulletins; Equus (caballus t. h.). Also for #14 monkey (Meerkatze exp.).

†gambiense, pp. 20, 426, 609, 798:

Trypanosoma.—Reported for: #413

Felis (catus [dom.] exp.); #469

Hyacna (crocuta); #479 Canis
(familiaris exp., species (jackals)
exp.); #485 Vulpes (species exp.,
vulpes); #561 Procyon (lotor hernandezii). Add vectors, p. 20:
†1458 Culex, †1459 Aëdes. Continued in later bulletins.

hippicum, p. 426: Trypanosoma.—
Murrina, Derrengadera, Verrenkung.—Reported for: #413 Felis (catus [dom.] exp.); #479 Canis (azarae, familiaris also exp.); #561 Procyon (lotor exp.); #563 Nasua (nasua exp.). Continued in later bulletins.

marocanum s Sergent et al., 1915, Bul. Soc. Path. exot., v. 18 (7), post July 29, 433–438: Trypanosoma.— Casablanca^t, Morocco.—So. evansi, fide Wenyon, 1926a, 566.—Reported for: #413 Fclis (calus [dom.] exp.); #479 Canis (familiaris also exp.). Continued in later bulletins; Equus (caballus t. h.).

montgomeryi is Laveran, 1911, Ann. Inst. Pasteur, v. 25 (7), July, 517: Trypanosoma. — Rhodesia t.—So. i congolense, Wenyon, 1926a, 556.—Reported for: #479 Canis (familiaris). Continued in later bulletins; Bos (taurus t. li.).

†ninac-kohl-yakimov ^a [p. 426] add earlier reference Yakimoff, 1921, Bul. Soc. Path. exot., v. 14 (10), post Dec. 4, 638-640: Trypanosoma.—Turkestan ^a.—So. evansi, fide Wenyon, 1926a, 571.—Reported for: #479 Canis (familiaris exp.). Continued in later bulletins; Camelus t. h.

pccaudi ⁸ Laveran, 1907, C. r. Acad. Sci., v. 144 (5), Feb. 4, 427; Ann. Inst. Past., v. 21 (5), May, 321: Trypanosoma.—Upper Niger ^{t.}—So. brucei, fide Wenyon, 1926a, 539.—Reported for: #479 Canis (familiaris). Exp. vectors: †1601 Glossina (fusca, morsitans, palpalis, tachinoides), †1613 Stomoxys (calcitrans). Continued in later bulletins; Ovis t. h.

pecorum° Bruce et al., 1910, Proc. Roy. Soc., Lond., Ser. B, v. 82 (558), 469-479, pls. 11-12, dimorphon+congolense renamed: Trypanosoma; Duttonella.—Uganda t.—So. congolense, fide Wenyon, 1926a, 552.—Reported for: #479 Canis (familiaris). Continued in later bulletins; cattle t. h.; also for #14 monkey. Vectors: †1601 Glossina (brevipalpis, morsitans, palpalis).

pestanai Bettencourt & França, 1905, C. r. Soc. Biol., v. 59 (28), Oct. 20, 305–306; 1905, Polytechnia, v. 1 (3), 117 [nv]; 1906, Arch. L'Institut Roy. Bact. Camara Pestana, v. 1 (1), May, 73–75, pl. 3, figs. 1–2: Trypanosoma.—Collares t, near Cintra, Portugal.—Syn. pestani wenyon, 1926a, 1359.—Reported for: #528 Mclcs (melcs mariancnsis s. taxus t. h.).

†rhodesiense *, pp. 20, 426: Trypanosoma.—So. brucei, fide Wenyon, 1926a, 539.—Reported for: #413 Felis (catus [dom.] exp.); #479 Canis (familiaris). Vectors: †1601 Glossina (morsitans nat., swynnertoni nat., brevipalpis exp., palpalis exp.); †1459 Aëdcs acgypti s. Stegomyia fasciata mechanical.

soudanense Laveran, 1907, Ann. Inst. Past., v. 21 (5), May, 324, 347, 354:
Trypanosoma.—Upper Niger t.—
So. evansi, fide Wenyon, 1926a, 566.—Reported for: #479 Canis (familiaris). Continued in later bulletins; Camelus (dromcdarius t. h.). Mechanical transmission by:

Acantheer (nemoralis exp.), †1613 Stomorys exp. (boueti, calcitrans).

species [p. 427] Balfour, 1906, 128, 130: Trypanosoma.—Reported for: #479 Canis (familiaris exp.). Continued in later bulletins.

species i * Bruce et al., 1909, Proc. Roy. Soc., Lond., Ser. B, v. 81 (545), 14-30, pl. 1, fig. 1, pl. 2, figs. 1-14: Trypanosoma.—Zanzibar.—"Probably so. T. dimorphon".—Reported for: #479 Canis (familiaris exp.). Continued in later bulletins.

species Donatien & Parrot, 1922, Bul. Soc. Path. exot., v. 15 (7), post July 12, 549-551 (=bcrbcrum i of debab): Trypanosoma.— Sahara.—Reported for: #479 Canis (familiaris).

species Fehlandt, 1911, (Inaug. Diss. Dok. Leipzig Univ.,) 1–23, pl. 12: Trypanosoma.—Tanganyika.—Reported for: #494 Aonyx (?capensis) or #499 Lutra (?species).

species Pinto, 1927, C. r. Soc. Biol., v. 97 (25), Aug. 26, 834 [of equinum type]: Trypanosoma.—
Matto Grosso, Brazil.—Reported for: #479 Canis (familiaris exp.).
Continued in later bulletins; Spiniger (domesticus t. h.).

species Vialatte, 1915, Bul. Soc. Path. exot., v. 8 (2), post Feb. 10, 70-72: Trypanosoma.—Beni-Abbes, Algeria.—Reported for: #479 Canis (familiaris).

species Weck, 1914, Arch. Schiffs-Trop.-Hyg., v. 18 (4), 116-124: Trypanosoma.—Africa.—Reported for: #413 Felis (catus [dom.], leo, scrval, species (wild cat) exp., species (leopard)); #479 Canis (familiaris). Continued in later bulletins. Also for #14 monkey (Meerkatze) exp.

venezuelense s, p. 427: Trypanosoma.—So. evansi, fide Wenyon, 1926a, 566.—Reported for: #479 Canis (azarac, familiaris). Continued in later bulletins.

vickersac, p. 427: Trypanosoma.— Reported for: #479 Canis (familiaris exp.). Continued in later bulletins. †vivax, p. 427: Trypanosoma.—Reported for: #479 Canis (familiaris exp.). Continued in later bulletins.

†95. Schizotrypanum, pp. 20, 427, 610. †cruzi, pp. 20, 427, 610: Schizotrypanum.—Reported for: #413 Felis (catus [dom.] exp.); #479 Canis (familiaris also exp.). Continued in later bulletins.

†108. Bodo, pp. 21, 428.

phlebotomi Mackie, 1914, Ind. J. Med. Res., v. 2 (1), July, 379, pl. 48 [Herpetomonas 1]: Bodo. — Madras 4.—Reported for: #479 Canis (familiaris exp.). Continued in later bulletins. Exp. vector †1447 Phlebotomus (minutus t. h.).

†111. Cereomonas, pp. 23, 425.

canis is Gruby & Delafond of Davaine, 1875a, 127: Cercomonas.—
Europe.—So. i Lamblia intestinalis d.—Reported for: #479 Canis (familiaris).

†131. Trichomonas, pp. 26, 428.

†*buccalis, p. 26: Trichomonas.— Reported for: #479 Canis (familiaris exp.). Continued in later bulletins.

[canis-aurci e Chatterjee et al., 1926, J. Dept. Sci., Calcutta Univ., v. 8, 11-14, 1 pl. [auri m]: Pentatrichomonas i e.—Calcutta t, India.—Reported for: #479 Canis (aureus t. h.).]

*canistomae Hegner & Ratcliffe, 1927, J. Parasitol., v. 14 (1), Sept., 51–53, fig. 1: Trichomonas.—Mouth.— Baltimore ^t, Md.—Reported for: #479 Canis (familiaris t. h.).

felis i da Cunha & Muniz, 1922, Brazil Med., Anno 36, v. 1 (22), June 3, 285–286: Trichomonas; Pentatrichomonas i s.—Brazil t.— Specific name sub judice, fide Kessel, 1928.—Reported for: #413 Felis (catus [dom.] t. h.); #479 Canis (familiaris).

*fclistomac Hegner & Rateliffe, 1927, J. Parasitol., v. 14 (1), Sept., 28–29, pl. 3, fig. 3: Trichomonas.—Baltimore^t, Md.—Reported for: #413 Felis (catus [dom.]t. h.).

†*hominis ¹, pp. 26, 429: Trichomonas.—Reported for: #413 Felis

- (catus [dom.] exp.); #479 Canis (familiaris exp.). Continued in later bulletins.
- †intestinalis d, pp. 36, 429: Trichomonas.—Reported for: #413 Fclis (catus [dom.] exp.).
- parva Alexeieff, 1911, C. r. Soc. Biol., v. 71 (34), Dec. 8, 541: Trichomonas; Tritrichomonas is.—Locality not given.—Reported for: #413 Felis (catus [dom.] exp.). Continued in later bulletins; Mus decumanus t. h.=Rattus norvegicus.
- *species Chandler in Riley, 1921, Parasitol., v. 13 (1), Mar., 87: *Trichomonas.*—Mich., U. S. A.— Reported for: #485 *Vulpes* (species).
- species [†] [p. 429] Kessel; add reference Kessel, 1928, Trans. Roy. Soc. Trop. Med. & Hyg., v. 22 (1), 61–80: Trichomonas.—Reported for: #413 Fclis (catus [dom.] exp.). Continued in later bulletins.
- species Reichenow, 1925, Arch. Schiffs-Trop.-Hyg., v. 29 (10), 521: Trichomonas.—Germany.—Reported for: #413 Felis (catus [dom.]); #455 Mungos (mungo).
- Pentatrichomonas js, p. 27. So. †131 Trichomonas, q. v.
- †132. Tritrichomonas is, pp. 27, 429. So. †131 Trichomonas, q. v.
- †139. Giardia, pp. 28, 429.
 - *canis Hegner, 1922, Amer. J. Hyg., v. 2 (4), July 1, 448-453, figs. 2, 6-14: Giardia.—Baltimore t, Md.— Reported for: #479 Canis (familiaris t. h.).
 - cati Deschiens, 1925, C. r. Soc. Biol., v. 92 (16), May 15, 1271-1272: Giardia.—Paris t.—Reported for: #413 Felis (catus [dom.] t. h.).
 - †*cnterica, p. 28: Giardia.—Reported for: #413 Felis (catus [dom.]); #479 Canis (familiaris). Continued in later bulletins.
 - *felis Hegner, 1925, Amer. J. Hyg., v. 5 (3), May, 258-263, figs. 5-6: Giardia.—Baltimore t, Md.—Reported for: #413 Felis (catus [dom.] t. li.).

- hegneri Chu, 1930, J. Parasitol., v. 16 (4), June 30, 231–236, figs. A-B: Giardia.—Philippine Ids. —Reported for: #437 Viverra (tangalunga t. h.).
- †*intestinalis d h, pp. 28, 429: Giardia.—Reported for: #413 Felis (catus [dom.]); #479 Canis (familiaris).
- †*lamblia, pp. 28, 429: Giardia.—Reported for: #413 Felis (catus [dom.] exp.); #479 Canis (familiaris exp.). Continued in later bulletins.
- species Deschiens, 1925, C. r. Soc. Biol., v. 93 (31), Oct. 31, 1065–1066: Giardia.—Paris from Haute Volta, Gold Coast, W. Africa.—Reported for: #413 Felis (catus [dom.] neg. exp., leo).
- *species Hegner, 1924, J. Parasitol., v. 11 (2), Dec., 76, fig. 4: Giardia.— Zoo, Baltimore, Md.—Reported for: #413 Fclis (rufa).
- suricatae Fantham, 1923, S. Afr. J. Sei., v. 20, 494: Giardia.—Pretoria t.—Reported for: #448 Suricata (tetradactyla t. h.).
- [vulpis Galli-Valerio, 1929, Centralbl. Bakt., Orig., I Abt., v. 112 (1/2), May 10, 56: Lamblia s.—
 Switzerland.—Reported for: #485 Vulpes (vulpes s. vulgaris t. h.).]
- †142f. Treponema 1, pp. 31, 430, 611, 799.
 - †aboriginale [p. 31]: Treponema 1.— Reported for: #479 Canis (jamiliaris).
 - [canina Bosselut, 1925, Bul. Soc. Path. exot., v. 18 (9), post Nov. 11, 704, 1 fig.: Spirochaeta ¹.—Blood.—Marengo ^t, Algiers.—Reported for: #479 Canis (familiaris t. h.).]
 - [canis Macfie, 1916, Ann. Trop. Med. & Parasitol., v. 10 (3), Dec. 16, 338-343: Spirochaeta \(^1\).—Acera \(^t\), W. Africa.—Reported for: #413 \(Felis\) (catus \([dom.]\)); #479 \(Canis\) (familiaris t.h.).]
 - [canis d Lukes & Derbek, 1923, C. r.
 Soc. Biol., Brno, v. 8, 5 6 [nv];
 Lukes, 1924, Ann. Inst. Past.,

- Paris, v. 38 (6), June, 523–528: Spirochaeta ¹ mclanogenes.—Brno ¹, Czechoslovakia.—Reported for: #479 Canis (familiaris t. h.). Continued in later bulletins.]
- [equi Novy & Knapp, 1906, J. Inf. Dis., v. 3 (3), May, 294 (based on Martin, 1906): Spirochaeta ¹.— French Guinea ¹.—Reported for: #479 Canis (familiaris exp.). Continued in later bulletins; Equus (caballus t. h.).]
- †curygyratum, pp. 32, 431: Treponema 1.—Reported for: #413 Felis (catus [dom.]). Continued in later bulletins.
- †icterohaemorrhagiae, pp. 32, 431:
 Treponema ¹.—Reported for: #413
 Felis (catus [dom.] exp.); #479
 Canis (familiaris exp.); #485 Vulpcs (species). Continued in later
 bulletins.
- †ictcroidcs; *, pp. 32, 431: Trcponcma.—Reported for: #479 Canis (familiaris exp.). Continued in later bulletins.
- †interrogans, pp. 32, 431: Treponema.—Reported for: #479 Canis (familiaris exp.). Continued in later bulletins.
- [laverani s Breinl & Kinghorn, 1906, Laneet, v. 172 (2), 651-652: Spirochaeta l.—Liverpool from Paris.—So.j Spirillum minus, fide Wenyon, 1926a, 1287.—Reported for: #479 Canis (familiaris). Continued in later bulletins; Mus (albus t. h.).]
- [lutrac Prowazek, 1907, Arb. K. Gesundheitsamte, v. 26, 31, fig. 27: Spirochaeta 1; Spiroschaudinnia.— Batavia t.—Reported for: #499 Lutra (species t. h.).]
- [marocanum Nicolle & Anderson, 1928, Arch. Inst. Past., Tunis, v. 17 (2), June, 106: Spirochaeta hispanicum. Morocco —Reported for: #479 Canis (familiaris exp.); #485 Vulpes (species); #511 Mustela (vulgaris exp.). Continued in later bulletins; †863 Ornithodoros (marocanus t. li.).]
- †microgyratum [p. 33]: Treponema.— Reported for: #479 Canis (familiaris exp.).

- †morsus-muris [pp. 33, 431]: Treponema !.—Reported for: #413 Felis (catus [dom.]); #479 Canis (familiaris); #511 Mustela (furo, nivalis). Continued in later bulletins.
- [mustclae Galli-Valerio, 1929, Zentralbl. Bakt., Orig., I Abt., v. 112 (1-2), May 10, 56: Spirochaeta buccalis.—Lausanne t.—Reported for:#521 Martes (foina t. h.).]
- †*pallidum, pp. 34, 432: Treponema^r.—Reported for: #479 Canis (familiaris exp.). Continued in later bulletins.
- [regaudi Ball & Roquet, 1911, J. Med. Vet. & Zoot., v. 15, 257: Spirochaeta 1; Spirella.—Reported for: #413 Felis (catus [dom.]); #479 Canis (familiaris t. h.); #485 Vulpes (species). Continued in later bulletins.]
- [species Balfour, 1906, J. Trop. Med., v. 90, Mar. 15, 90–91, fig. c: Spirillum.—Sudan.—Reported for: #479 Canis (familiaris). Also for #14 monkey.]
- †species Brumpt [p. 35]: Pseudo-spirochaetes.—? So. regaudi.—Reported for: #479 Canis (familiaris exp.).
- [species Gaiger, 1915, J. Comp. Path. & Therap., v. 28, 67: Spirochaeta ¹.—India.—Reported for: #479 Canis (familiaris).]
- [species Kasai & Kobayashi, 1919, J. Parasitol., v. 6 (1), Sept., 1–10, pl. 1: "Stomach spirochete".—
 Tokyo.—Reported for: #413 Felis (catus [dom.]); #479 Canis (familiaris). Continued in later bulletins; also for #14 monkey.]
- [†species [p. 432] Kermogant, 1925: Spirochaeta ¹.—Reported for: #413 Felis (catus [dom.] exp.). Continued in later bulletins.]
- [species Kolmer & Wagner, 1916, Centralbl. Bakt., Orig., I Abt., v. 78 (5), Oct. 12, 383-384, 1 fig.: Spirochaeta ¹.—Vienna.—Reported for: #479 Canis (familiaris).]
- [species Lim, 1920, Parasitol., v. 12
 (2), Mar., 108-111, pl. 7, figs. 1-3,
 5: "Spirochaetes". Edinburgh,
 Scotland. —Reported for: #413
 Felis (catus [dom.]).]

- [species [2 kinds] Ogura, 1925, J. Jap. Soc. Vet. Sci., v. 4 (2), June, 185–187, English Summary, 188, pl. 6: Spirochaeta ¹.—Japan.—Reported for: #479 Canis (familiaris).]
- [species Pettit, 1927, Biol. méd., v. 17 (2), Feb., 89 (after Gros): "Spirochetides".—Reported for: #413 Felis (catus [dom.]). Continued in later bulletins.]
- tabacalense Mazza, 1926, Rev. Univ. Buenos Aires, v. 4 (4), 434, figs. 1–5: Treponema ¹.—Tabacal ^t, S. Amer.—Reported for: #479 Canis (familiaris t. h.).
- †vincenti, pp. 35, 433: Treponema.— Reported for: #413 Felis (catus [dom.]); #479 Canis (familiaris). Continued in later bulletins.
- †149. SARCOSPORIDIA, pp. 36,433. [species Viljoen, 1921, Inaug. Dissert., Univ. Bern, 1–68, 5–6: Sarkosporidien.—S. Africa.—Reported for: #450 Cynictis (penicillata); #455 Mungos (mungo [senescens]); #460A Helogale (brunnula); #464 Herpestes (species); #538 Mellivora (ratel so. capensis). Continued in later bulletins.]
- †151. Sarcocystis, pp. 36, 433.
 - species Darling, 1915, J. Parasitol., v. 1 (3), Mar., 116: Sarcocystis.— Panama.—Reported for: #413 Felis (catus [dom.]).
 - species Krause, 1863, Zeitschr. f. ration. Med., v. 18, 156: Sarcocystis.—Locality not given.—Reported for: #413 Felis (catus [dom.]); #479 Canis (familiaris).
 - species ¹ Wasielewski, 1896a, 127 [based on Kartulis; Baraban; St. Remis]: Sarcocystis.—Locality not given.—Reported for: #413 Felis (catus [dom.]); #479 Canis (familiaris). Continued in later bulletins.
- †155. Monocystis, p. 37.
 - †sphaerica, p. 38: Monocystis.— Reported for: #479 Canis (familiaris).

- †156. COCCIDIOMORPHA, p. 38.
 - [hartmanni Rastégaïeff, 1930, Arch. Protistenk., v. 71 (3), 394: Genus not stated.—Locality not given.—Reported for: #413 Felis (tigris t. h.).]
- Dermosporidium ¹ Marcone, 1907,
 Atti R. Ist. d'incorag. di Napoli,
 6 S., v. 58, 18, 10-19; 1908,
 Zeitschr. f. Infectionsk., v. 4 (1-2),
 Mar. 26, 15, 5-16, mt. canis Marcone, 1907, 1908.—Italy ^t.
 - canis ⁵ Marcone, 1907, 18, 10–19, pl. 1; 1908, 15, 5–16, pls. 1–2: Dermosporidium ⁵.—Italy ⁵.—Reported for: #479 Canis (familiaris t. h.).
- —. Pneumocystis Delanoë, 1912, C. r. Acad. Sei., v. 155, Oct. 7, 658–660, mt. carinii.—Schizogony stage of some sporozoon [?Klossiella]. S. America and Paris. <? KLOSSIELLIDAE < ADELEIDA.
 - carinii Delanoë, 1912, 658-660:

 Pneumocystis [;? Klossiella].—

 Paris '.—Reported for: #413 Fclis

 (catus [dom.]); #479 Canis (familiaris). Continued in later bulletins; Rattus (species t. h.).
- <†157. Cytospermium i, p. 434.
- hepatis canis familiaris P Rivolta, 1878b, 233: Cytospermium.—Trematode egg, fide Wenyon, 1926a, 807.—Reported for: #479 Canis (familiaris).
- villorum intestinalium canis P Rivolta, 1878b, 232: Cytospermium.— So. †161 Isospora bigemina.— Reported for: #413 Felis (catus [dom.]); #479 Canis (familiaris).
- †161. Isospora, pp. 38, 433. Syn. Diplospora ⁸ Labbé, 1893, C. r. Acad. Sci., v. 117 (12), Sept. 18, 407.
 - †belli, p. 433: Isospora.—Reported for: #413 Felis (catus [dom.] exp.); #479 Canis (familiaris neg. exp.). Continued in later bulletins.
 - †*bigcmina [p. 38] Stiles, 1891f, 163 [Coccidium ¹]: Isospora.—Paris ^t.— Syn. bigmenina ^m 1921.—Reported for: #413 Felis (catus [dom.]);

#479 Canis (familiaris t. h.); #485 Vulpes (species); #511 Mustela (putorius).

eanis Railliet & Lucet, 1891, Bul. Soc. zool. de France, v. 16 (9-10), Nov.-Dec., 250 [Coccidium! bigeminum]: Isospora bigemina.—Reported for: #479 Canis (familiaris t. h.).

*caniveloeis; Weidman, 1915, J. Comp. Path. & Therap., v. 28 (4), Dec. 31, 320–323, figs. 1–13 [Coecidium;]: Isospora bigemina.—Western; U. S. A.—So.; felis, fide Wenyon, 1926a, 818.—Reported for: #485 Vulpes (velox t. h.).

cati Railliet & Lucet, 1891, Bul. Soc.
zool. de France, v. 16 (9-10),
Nov.-Dec., 250 [Coccidium bige-minum]: Isospora bigemina.—Reported for: #413 Felis (catus [dom.] t. h.).

*felis Wenyon, 1923, Ann. Trop. Med. & Parasitol., v. 17 (2), July 12, 248–257, 1 text fig., pls. 9–12 [for Diplospora bigemina of Wasielewski, 1904]: Isospora.—Europe^t.—Reported for: #413 Felis (catus [dom.] t. h.); #479 Canis (familiaris).

laidlawi Hoare, 1927, Ann. Trop. Med. & Parasitol., v. 21 (3), Oct. 10, 314–315, pl. 23: Isospora.— England ^t.—Syns. laidlaw ^m Hoare, loe. eit., 314; laidlowi ^m.—Reported for: #511 Mustela (furo t. li.).

putorii Railliet & Lueet, 1891, Bul. Soc. zool. de France, v. 16 (9–10), Nov.–Dec., 250 [Coecidium bigeminum]: Isospora bigemina.—Locality not given.—Reported for: #511 Mustela (putorius t. h.).

†*rivoltai*, pp. 39, 433 [Coccidium ¹]:

Isospora; Eimeria¹.—Reported for:

#413 Felis (eatus [dom.] t. h.); #479

Canis (familiaris).

species Möller, 1923, Inaug. Dissert. Tierärztl. Hochsell. Berlin, 17–18: Isospora.—Berlin Zoo ^t.—Reported for: #413 Felis (leo t. ll.).

species Nieschulz, 1925, Centralbl.
 Bakt., Orig., I Abt., v. 94 (2),
 Jan. 28, 138-139, fig. 1b: Iso-

s p o r a.—Netherlands.—Reported for: #479 Canis (familiaris).

species Triffitt, 1927, Protozool., No. 3, Apr., 59-61 (figs. 1-3) 61-62,62-63: Isospora.—London.— Reported for: #413 Felis (species (Eyot-eat)); #413 Lynx (species); #485 Vulpes (species).

species Tubangui, 1931, Phil. J. Sci., v. 44 (3), Mar., 262: Isospora.—Philippines.—Reported for: #413 Felis (eatus [dom.]).

[species Virchow, 1860b, 527 [Psorospermium]: Coccidium 1.—So. Isospora bigemina.—Reported for:

#479 Canis (familiaris).]

[villorum intestinalium canis ^p Rivolta, 1878b, 232: Cytospermium ¹.—So. bigemina.—Reported for: #413 Felis (catus [dom.]); #479 Canis (familiaris).]

viverrae Adler, 1924, Ann. Trop. Med. & Parasitol., v. 18 (1), Apr. 30, 91–92, pl. 5, figs. 1–38: Isospora.—
S. Africa ^t.—Reported for: #413
Felis (catus [dom.] neg. exp.); #435
Civettietis (civetta t. h.); #479 Canis (familiaris neg. exp.).

vulpis Galli-Valerio, 1931, Centralbl.
Bakt., Orig., I Abt., v. 120 (1-2),
Feb. 23, 102-103: Isospora.—
Switzerland ^t.—Reported for: #485
Vulpes (vulpes s. vulgaris t. li.).

†163. Eimeria, pp. 39, 433, 611.

eanis Wenyon, 1923, Ann. Trop.
Med. & Parasitol., v. 17 (2),
261-263, pl. 13, figs. 16-19, pl. 14,
figs. 1-8: Eimeria.—London t.—
Reported for: #479 Canis (familiaris t. h.).

felina Nieschulz, 1924, Tijdsehr. v. Diergeneesk., v. 51 (4), Feb. 15, 129–131, figs. a–b: Eimeria.—Holland t.—Reported for: #413 Felis (eatus [dom.] t. h., leo).

furonis Hoare, 1927, Ann. Trop. Med. & Parasitol., v. 21 (3), Oct. 10, 316–317, pl. 24, figs. 7-11: Eimeria.—England t.—Reported for: #511 Mustela (furo t. lr.).

ictidea Hoare, 1927, Ann. Trop. Med.
& Parasitol., v. 21 (3), Oct. 10, 315-316, pl. 24, figs. 1-6: Eimeria.—England t.—Reported for: #511 Mustela (furo t. h.).

*mephitidis Andrews, 1928, J. Parasitol., v. 14 (3), Mar., 193–194, pl. 9, figs. 1–2: Eimeria.—North America —Reported for: #552 Mephitis (mephitis t. h.).

mesnili Rastégaïeff, 1929, Bul. Soc. Path. exot., v. 22 (8), post Oet. 9, 640; 1930, Arch. Protistenk., v. 71 (3), 395: Eimeria.—Murman Coast ^t, Russia.—Reported for: #486 Alopex (lagopus t. h.).

nova h Railliet, 1892z, 339 [not Eimeria nova Schneider, 1881] [Orthospora l]: Eimeria.—Reported for: #413 Felis (catus [dom.]); #479 Canis (familiaris).

novowenyoni Rastégaïeff, 1929, Bul. Soc. Path. exot., v. 22 (8), post Oct. 9, 640; 1930, Arch. Protistenk., v. 71 (3), 394: Eimeria.— Leningrad Zoo ^t.—Reported for: #413 Felis (tigris t. h.).

†perforans [p. 39] Leuckart, 1879b, 278 [Coccidium]: Eimeria.—Reported for: #413 Felis (catus [dom.] neg. exp.); #479 Canis (familiaris). Continued in later bulletins; Oryctolagus (cuniculus t. h.).

sibirica Yakimoff & Terwinsky, 1931, Arch. Protistenk., v. 73 (1), Jan. 29, 58-59, fig. 1: Eimeria.—Russia ^t.—Reported for: #521 Martes (zibellina yeniscensis, zibellina zibellina).

*species Andrews, 1927, J. Parasitol., v. 13 (3), Mar., 189: Eimeria.— See E. mephitidis.—Reported for: #552 Mephitis (mcphitis).

†*stiedae [p. 39] Lindemann, 1865, Bul. Soc. Imp. Moseou, v. 38 (4), Pt. 2, 385-386 (based on Stieda's figs. 4-5, pl. 3, Arch. f. Path. Anat., 1865): Eimeria.—Reported for: #479 Canis (familiaris). Continued in later bulletins; Oryctolagus (cuniculus dom. t. h.).

[var. [p. 800] Labbé, 1899a [based on Eimer, 1870]: Coccidium perforans.—Reported for: #479 Canis (familiaris); #511 Mustela (vulgaris). Continued in later bulletins.]

vulpis Galli-Valerio, 1929, Centralbl. Bakt., Orig., I Abt., v. 112 (1-2), May, 56: Eimeria.—Switzerland t.—Reported for: #485 Vulpes (vulpes s. vulgaris t. h.).

†163A. Coccidium , p. 39.

nudum i Mareone, 1907, Atti R. Ist. d'Incorag. di Napoli, 6 S., v. 58, 23, 20–30, pl. 2; 1908, Zeitschr. f. Infectionsk., v. 4 (1–2), Mar. 26, 20, 16–30, pl. 3: Coccidium i.— Italy i.—Reported for: #479 Canis (familiaris t. h.).

species Cauchemez, 1923, Bul. Soc. centr. Méd. véter., v. 76, 413–417, figs. 1–18: Coccidium ¹.—France.—Reported for: #479 Canis (familiaris).

[species Efimoff in Rastégaïeff, 1929, Bul. Soc. Path. exot., v. 22 (10), post Apr. 11, 909: "Coccidies".—
E. Siberia.—Reported for: #485
Vulpes (species).]

species Liénaux, 1891a, 16-21: Coccidium ¹.—Europe.—Reported for: #479 Canis (familiaris).

<†165. Hepatozoon, p. 801. Syn. Leucocytogregarina o Porter, 1909, Science Progress, v. 4 (14), Oct., 264, tpd. L. muris Balfour syn. H. pcrniciosum.

canis James, 1905, Sci. Mem. Off. Med. & San. Dept. Gov. India, n. s., No. 14, 6-11, figs. 1-14 [Leucocytozoon 1]: Hepatozoon; Haemogregarina 1; Leucocytogregarina o].—Assam t.—Reported for: #469 #413 Felis (catus [dom.]); Hyaena (crocuta); #476 Cuon (dukhunensis); #479 Canis (adustus, aureus, familiaris t. h., species (Pariah dog)); #485 Vulpes (bengalensis). Vector, †875 Rhipicephalus (sanguineus).

canis-adusti Nuttall, 1910, Parasitol., v. 3 (1), Apr., 112–113, pl. 11, figs. 1–5 [Haemogregarina ¹]: Hepatozoon.—Cambridge ^t, from B. E. Africa.—Reported for: #479 Canis (adustus t. ll.).

[canis-aurci o Martoglio, 1913, Ann. d'Igiene, v. 23 (2), 167 [Leucocytogregarina o rotundata] [based on Patton]: Haemogregarina l rotundata.—So. rotundatum, fide Wenyon, 1926a, 1091.—Reported for: #479 Canis (aureus t. h.).]

[eanis-familiaris* Martoglio, 1913, Ann. d'Igiene, v. 23 (2), 165, pl. 5, figs. 1-7 [Leueocytogregarina o rotundata]: Haemogregarina ¹ rotundata.—Abyssinia.—So. canis, fide Wenyon, 1926a, 1091.—Reported for: #479 Canis (aureus, familiaris t. h.).]

ehattoni is Leger, 1912, C. r. Soc. Biol., v. 72 (24), July 5, 1062 [Haemogregarina i]: Hepatozoon.—
Upper Senegal and Niger t.—So.i canis, fide Wenyon, 1926a, 1091.—
Reported for: #469 Hyaena (crocuta t. h.); #479 Canis (familiaris).
felis Wenyon, 1926a, 1111, for felis-

felis • Wenyon, 1926a, 1111, for felisdomesticae • Patton, q. v.

felis-domesticae e j s, Patton, 1908, Parasitol., v. 1 (4), Dec., 319 [Leucocytozoon l] [felis-domestici]: Hepatozoon.—India l.—So. j canis, fide Wenyon, 1926a, 1091. Syn. felis e.—Reported for: #413 Felis (eatus [dom.] t. h.).

[hyenae-crocutae * Martoglio, 1913, Ann. d'Igiene, v. 23 (2), 167 (based on Leger) [Leucocytogregarina * rotundata]: Haemogregarina † rotundata.—So. i eanis, fide Wenyon, 1926a, 1091. Syn. hyenae-croculae * 1926a.—Reported for: #469 Hyaena (crocuta t. h.).]

rotundatum Patton, 1910, Bul. Soc. Path. exot., v. 3 (4), post Apr. 13, 280 [Leucocytogregarina°]: Hepatozoon.—India t.—Not clear that this is distinct from eanis, fide Wenyon, 1926a, 1091.—Reported for: #479 Canis (aureus t. h.).

[species Franchini, 1925, Arch. Schiffs-Trop.-Hyg., v. 29 (1), 108: Leucocytogregarina •.— Italy.— Reported for: #479 Canis (familiaris).]

species Wenyon in Hamerton, 1929, Proc. Zool. Soc. Lond., 59: *Hepato*zoon.—London Zoo.—Reported for: #413 Felis (bengalensis).

†170. Plasmodium, pp. 41, 434, 611.

canis Castellani & Chalmers "1908"

1910a, 298: Plasmodium.—Colombot, Ceylon.—Reported for: #479

Canis (familiaris, species (Pariah dog t. h.)).

roubaudi Leger & Bédier, 1923, C. r. Soc. Biol., v. 88 (6), Feb. 17, 422–424, figs. 1–8: Plasmodium.—Senegal t.—Reported for: #540 Ictonyx (zorilla t. h.).

†*rivax, pp. 42, 435: Plasmodium.— Reported for: #479 Canis (familiaris exp.).

†172. Microsoma, p. 43.

mustelae Lebedeff & Tscharnotzky, 1911, Centralbl. Bakt., Orig., I Abt., v. 58 (7), May 27, 625, 631, 1 pl.: Microsoma.—Moscow .— Little evidence that bodies were parasitic, fide Wenyon, 1926a, 1064.—Reported for: #511 Mustela (putorius t. h.).

†172*i*, O. Nuttallia ^{j s}, pp. 43, 44. So. †173 Babesia, q. v.

†172k, D. Rossiella, p. 43. So. †173 Babesia, q. v.

†1720, I. Rangelia¹⁸, p. 44. So. †173 Babesia, q. v.

†172S. Anaplasma, pp. 43, 436.

canis Basile, 1912, Pathologica, v. 14 (87), 358–360, figs. 1–8: Anaplasma.—Reported for: #479 Canis (familiaris t. h.).

species Gilruth et al., 1911, Parasitol., v. 4 (1), Mar., 1: Anaplasma.— Melbourne Zoo.—Correspond to marginale.—Reported for: #479 Canis (dingo).

species [p. 436] Laveran & Franchini, 1914; Anaplasma.—Reported for: #413 Felis (catus [dom.]); #479 Canis (familiaris). Continued in later bulletins.

[species Yakimoff & Schokhor, 1917, Bnl. Soc. Path. exot., v. 10 (4), post Apr. 11, 306: "anaplasmes".—Russian Turkestan.— Reported for: #479 Canis (species (wolf)).]

†173. Babesia, pp. 44, 436, 612.

bauryi Leger & Bédier, 1922, C. r. Soc. Biol., v. 87 (29), Oct. 14, 935 [Nuttallia i s]: Babesia.—Senegal, Africa i.—Reported for: #485 Vulpes (dorsalis t. h.).

*bigemina Smith & Kilbourne, 1893a, 72 [Pyrosoma ⁿ]: Babesia; Piroplasma ^s.—Wash., D. C.—Reported for: #479 Canis (familiaris). Continued in later bulletins; Bos (taurus t. h.). Vectors: †875 Rhipicephalus (sanguineus); †878 Boophilus (annulatus, australis, bovis, calcaratus, decoloratus).

canis Piana & Galli-Valerio, 1895,
Moderno Zooiatro, v. 6 (9), May
10, 165–168, figs. 1–4 [Pyrosoma h
bigeminum]: Babesia; Piroplasmas; Proplasmam.—Malignant
jaundice of dogs.—Italy h—Reported for: #476 Cuon (dukhunensis); #479 Canis (aureus exp.,
familiaris t. h.). Vectors: †869
Haemaphysalis (leachi); †873 Dermaeentor (reticulatus, venustus);
†875 Rhipiecphalus (sanguineus).

civettae Leger, A. & M., 1920, Bul. Soc. Path. exot., v. 13 (8), post Oct. 13, 652: Babesia; Nuttallia^{j s}.—Senegal ^t.—Reported for: #435 Civettietis (civetta t. h.).

[* commune Phillips & McCampbell, 1908, Centralbl. Bakt., Orig., I Abt., v. 47 (5), 592–608, figs. 1–6: Piroplasma.—Ohio, U. S. A.—Reported for: #479 Canis (familiaris t. h.). Continued in later bulletins.]

felis Davis, 1929, Trans. Roy. Soc. Trop. Med. & Hyg., v. 22 (6), Apr. 25, 533, figs. 1–4: Babesia.—Sudan t.—Cf. species Davis.—Reported for: #413 Felis (catus [dom.] exp., oereata t. h.).

gibsoni Patton, 1910, Bul. Soc. Path. exot., v. 3 (4), post Apr. 13, 274–279, figs. 1-6 [Piroplasma *]: Babesia; Achromaticus.—Madras *.—Reported for: #479 Canis (aureus, familiaris t. h., species (bazaardogs) exp.). Suspected vector, †875 Rhipicephalus (sanguineus).

herpetedis ^e França, 1908, Bul. Soc. Path. exot., v. 1 (7), post July 8, 410-412[herpestidis][Piroplasma^s]: Babesia; Nuttallia^{is}.—Lisbon^t, Portugal.—Syn. herpestedis^e Martini, 1923.—Reported for: #464 Herpestes (ichneumon t. h.).

legeri Bédier, 1924, C. r. Soc. Biol., v. 90 (6), Feb. 22, 415-417 [Nuttallia i *]: Babesia.—Paris t, France from Africa.—Reported for: #458 Atilax (ealera so. galera t. h.).

rossi Nuttall, 1910, Parasitol., v. 3 (1), Apr., 109–111, pl. 10: Babesia; Rossiella ^{j s}; Piroplasma.—Cambridge ^t from Brit. E. Africa.—Reported for: #479 Canis (adustus t. h., aureus).

species Davis, 1929, Trans. Roy. Soc. Trop. Med. & Hyg., v. 22 (4), 304: Babesia.—Sudan.—Cf. felis.—Reported for: #413 Felis (catus [dom.] exp., oercata [Sudanese wild cat]).

species Leger & Bédier, 1922, C. r. Soc. Biol., v. 87 (29), Oct. 14, 934 [Piroplasmas]: Babesia.—Paris, from Mauritania, French Sudan.—Reported for: #413 Felis (leo).

[species Martini, 1923, Lehrb. Med. Entom., 313: Nuttallia.—Locality not given.—Reported for: #455 Mungos (mungo).]

species Patton, 1910, Bul. Soc. Path. Exot., v. 3 (4), post Apr. 13, 274 [Piroplasma]: Babesia.—India.—Reported for: #455 Mungos (mungo).

species Plimmer, 1915, Proc. Zool. Soc. Lond., 130: Babesia.—London Zoo from India.—Possibly gibsoni, fide Wenyon, 1926a, 1021.—Reported for: #476 Cuon (dukhunensis).

species Wenyon & Hamerton, 1930, Trans. Roy. Soc. Trop. Med. & Hyg., v. 24 (1), June 30, 7-8: Babesia.—London Zoo from N. America.—Reported for: #413 Felis (rufa).

species Wenyon & Scott, 1926, Trans. Roy. Soc. Trop. Med. & Hyg., v. 20 (1-2), July, 6: Babesia.—London Zoo, from N. America.—Reported for: #561 Procyon (lotor).

[species Yakimoff in Yakimoff et al., 1910, Centralbl. Bakt., Orig., I Abt., v. 55 (5), Aug. 17, 372: "Piroplasmen" [reported as Plasmodium, fide Wenyon, 1926a, 1354].—St. Petersburg Zoo.—Reported for: #576 Ursus (species t. h.).]

Ispecies Yakimoff & Schokhor, 1917, Bul. Soc. Path. exot., v. 10 (4), post Apr. 11, 305-306 [resembles Piroplasma eanis]: Babcsia.—Termese, Russian Turkestan.—Reported for: #479 Canis (species (wolf)).]

tropiea Lingard, 1905a, 76-78 [Pyro-Nuttallia "; plasma m]: Babesia;Piroplasma s .- India t .- Reported for: #413 Fclis (catus [dom.]); #479 Canis (familiaris, species (Pariah dog)). Continued in later bulletins; Equus (caballus t. h.).

vitalii Pestana, 1910, Rev. Med. S. Paulo, No. 22, 423 [nv] [Piroplasma]: Babesia; Rangelia i s.— Brazil ^t.—Syn. vitali ^m.—Reported for: #479 Canis (familiaris t. h.). Veetors: †881 Amblyomma (eajennense, striatum).

†174. Theileria, pp. 44, 436.

species "Patton, 1910, 3" [nv]:Theileria.—Reported for: #455 Mungos (mungo).

species Yakimoff & Schokhor, 1917, Bul. Soc. Path. exot., v. 10 (4), post Apr. 11, 306 ["Theiléries"]: Theileria.—Taschent, Russian Turkestan.—Reported for: #479 Canis (species (wolf)).

species Yakimoff & Schokhor, 1917, Bul. Soc. Path. exot., v. 10 (4), post Apr. 11, 309 ["Theilérièse"]: Theileria.—Termese, Russian Turkestan.—Reported for: #485 Vulpes (species).

†177. Bartonellas, pp. 45, 436, 612. So. †172 Grahamella.

canis Kikuth, 1928, Klin. Wochenschr., Berl., v. 7 (37), Sept. 9, 1729-1730, 1 fig.: Bartonella.— Europe t.—Reported for: #479 Canis (familiaris t. h.).

†188. HYPOSTOMATA, p. 46.

-. Opalinopsis Foettinger, 1881a, 367-372, tpd. O. sepiolae Foettinger. Systematic position sub judice. In FOETTINGERIDAE, fide Doflein, 1929, Lehrb. d. Protozoenk., 5th Ed., Pt. 2 (2), 1175. Gulf of Naples t.

*nuelcolobata Smith & Fox, 1908, Proc. Path. Soc. Phila., N. S., v. 11 (10), Oct., 282-287.—Phila. Zoo '.—Reported for: #479 Canis (latrans t. h.).

†212. Encephalitozoon, pp. 52, 437.

cuniculi Levaditi et al., 1923, C. r. Acad. Sei., v. 177 (20), Nov. 12, Eneephalitozoon.—Reported 985:for: #479 Canis (familiaris exp.). Continued in later bulletins; Oryctolagus (cunieulus t. h.).

negrii Manouelian & Viala, 1927, C. r. Acad. Sci., v. 184 (10), Mar. 7, 630-632: Encephalitozoon.—Reported for: #479 Canis (familiaris

t. h.).

†rabici, pp. 52, 437: Eneephalitozoon.— Renamed †212 Glugea lyssae.— Reported for: #479 Canis (familiaris).

†212. Glugea, p. 437.

†lyssae, p. 438 (†212 Eneephalitozoon rabiei renamed): Glugea.—Reported for: #479 Canis (familiaris).

<†212. Protozoa. Genus not determined.

species Gerrard, 1906, J. Hyg., v. 6 (3), July, 229-230; Wenyon, 1906, 231-234: Protozoan.—Federated Malay States.—Probably Hepatozoon canis.—Reported for: #479 Canis (familiaris).

*species Jackson, 1921, J. Inf. Dis., v. 29 (3), Sept., 302–305, figs. 1– 10 [Sporozoai]: Protozoan.—Chicago.—Reported for: #479 Canis (familiaris).

<†212 Psorospermium.</p>

species Neumann, 1866, Arch. mikr. Anat., v. 2, 512-514: Psorospermia.—See †163 Eimeria perforans.—Reported for: #479 Canis (familiaris).

species Virchow, 1860b, 527: Psorospermium; Coccidium 1.—See †161 Isospora bigemina Stiles.—Reported for: #479 Canis (familiaris).

†218. PLATHELMINTHES 6, pp. 72-113, 438-450, 612-622, 802-813.

†221. TREMATODA, pp. 72-97, 438-444, 612-621, 802-807.

⁶ The cross reference to the flatworms has been prepared by Mabelle Orleman Nolan.

†225. *MONOSTOMATA*, pp. 73, 612. †225*e*. NOTOCOTYLIDAE, p. 73. See *Catatropis*.

-. Catatropis Odlmer, 1905, Fauna arctica, v. 4 (2), 366, 367, tod. verrucosa.—<†225e NOTOCOTYLI-DAE: Body elongate, cephalic and caudal ends rather uniformly Skin on forebody and rounded. on venter beset with very fine spines which become larger cephalad, and on the venter of the forebody they become thick set, strong, rhomboid scales. Venter with 3 rows of weakly developed gland packets, of which the median row discharges on a uniformly slightly raised, longitudinally running, keel-like swelling, while each of the lateral rows discharges in a row of 8 to 12 small, not retractile, not invaginatable warts. very strongly developed, nearly as long as cirrus sac.

verrucosa Frölich, 1789 [Fasc.¹]: Catatropis; Monost.¹ — Reported for: #485 Vulpes (species). Continued in later bulletins; Anser (dom. t. h.).

†**228**. *AMPHISTOMATA*, pp. 73, 438.

†229a. Amphistoma¹, pp. 76, 438.

species Parona, 1894a, 139, 291:

A m p h i s t. (Fasciola 1).—Pisa,
Italy.—Reported for: #413 Fclis
(catus).

†223j. HOLOSTOMATA, pp. 73, 802.

—. STRIGEOIDEA, p. 802. For revision,
 see La Rue, 1926, Trans. Amer.
 Micr. Soc., v. 45 (1), Jan., 11–19.

—. STRIGEIDAE. See ALARIINAE, CYATHOCOTYLINAE, Diplostomulum, and Tetracotyle.

—. ALARINAE Hall & Wigdor, 1918, J. Amer. Vet. Med. Assoc., v. 53, n. s. v. 6 (5), 617.— < STRIGEIDAE: Cirrus and cirrus sac absent. Anterior body region flattened; posterior region cylindrical or flattened dorsoventrally. Lateral sucking cups, auricular projections, or tentacle-like appendages, usually present near oral sucker. Uterus usually enters holdfast organ.

Holdfast organ greatly elongated or cordate. Syns.: conchosominae Railliet, 1896, 160; hemistominae Braun, 1893a. See Alaria, Pharyngostomum.

-. Alaria Schrank, 1788, mt. vulpis of so. alata.—Alarinae: Holdfast organ consists of 2 long folds exceeding half length of forebody. Uterus enters holdfast organ and forms one or more convolutions. Vitellaria confined to forebody or at least not extending posteriad beyond ovary.

Syns.: Conchosomum o Railliet, 1896, 160, Hemistomum Diesing renamed, tod. alatum; Hemistoma oh Cobbold, 1876, 853, for Hemistomum [not Hemistoma Swainson, 1839, fish]; Hemistomum o Diesing, 1850a, type alatum.

alata Goeze, 1782a [Planaria 1]: Alaria; Conchosomum o; Hemistomumo; Diplostomumi; Distomai; Fasciola 1; Festucaria 1; Holostomum 1.—Germany t.—Reported for: #413 Felis (silvestris, species (wild cat, misc.)); #479 Canis (azarac, cancrivorus, familiaris, lupus, species (wolf)); #483 Fennecus (cerdo so, zcrda); #485 Vulpes (species, alopex so. vulpes t. h.); #486 Alopex (lagorus). Continued in later bulletins. 1st host Planorbis (vortex). 2d host Schilbe (mystus, Egypt).

*americana Hall & Wigdor, 1918, J. Amer. Vet. Med. Assoc., v. 53, n. s., v. 6 (5), 618, 620-622, figs. 2-5:
Alaria.—Detroit , Michigan.—
Reported for: #413 Felis (catus);
#479 Canis (familiaris t. h.).

*arisaemoidcs Augustine & Uribe, 1927, Parasitol., v. 19 (2), Aug., 236-244, figs. 1-4, pls. 16-18, figs. 1-11: Alaria.—Massachusetts t.— Reported for: #485 Vulpes (fulva t. h.).

[asovicnsis Skrjabin, 1923, Trudy Gos. Inst. Exp. Vet., Moscow, v. 1 (1), 70-71: Hemistomum °.—Russia '.—Reported for: #413 Felis (eatus [dom.] t. h.).]

- clathratum Diesing, 1850a [Hemistomum^o]: Alaria.—Mattogrosso^t, Brazil.—Reported for: #497A Pteronura (brasiliensis t. h.).
- *michiganensis Hall & Wigdor, 1918, J. Amer. Vet. Med. Assoc., v. 53, n. s. v. 6 (5), 618, 623-624, figs. 6-7: Alaria.—Detroit , Michigan.—Reported for: #479 Canis (familiaris t. h.).
- nasuae LaRue & Townsend, 1927, J. Parasitol., v. 14 (2), Dec., 124: Alaria.—Reported for: #563 Nasua (narica s. nasica ° ° t. h.).
- *oregonensis LaRue & Barone, 1927, J. Parasitol., v. 14 (2), Dec., 124: Alaria.—Redmond ', Oregon.— Reported for: #479 Canis (lestes t. h.).
- pseudoclathratum Krause, 1914, Zeitschr. f. Wiss. Zool., v. 112, Dec. 22, 198–204, pl. 6, fig. 6 [Hemistomum °]: Alaria.—Brazil ^t.—Reported for: #497A Pteronura (brasiliensis t. h.).
- species Cameron, 1928, J. Helminthol., v. 6 (2), June, 87: Alaria.—London Zoo, from Malay States.—Reported for: #413 Felis (planiceps t. h.).
- *species Cram, 1926, N. Amer. Vet., v. 7 (7), July, 43: Alaria.—Oregon.—So. oregonensis.—Reported for: #479 Canis (lestes).
- vulpis o Schrank, 1788a, alata renamed: Alaria; Fasciola 1.—Germany t, Europe.—So. alata.—Reported for: #479 Canis (azarae, cancrivorus); #485 Vulpes (vulpes t. h.).
- —. Pharyngostomum Ciurea, 1922, C.r. Soc. Biol., v. 87 (23), 269, tod. Hemistomum¹ cordatum.— < Alarminae: Oral sucker short, acetabulum present but greatly atrophied. Holdfast organ large, more or less cordate. Hind-body short and broad. Ootype anterior to testes. Testes deeply lobate and more or less side by side.
 - cordatum Diesing, 1850a [Hemistomum 1]: Pharyngostomum.— Reported for: #413 Felis (catus, sil-

- vestris s. catus ¹ ferus t. h., species). Continued in later bulletins.
- fausti Skrjabin & Popow, 1930, Tierärztliche Rundschau, Wittenberge, v. 36 (42), Oet. 19, 709–710, figs. 1–2: Pharyngostomum.—U. S. S. R.^t—Reported for: #413 Felis (catus [dom.] t. h.).
- —. CYATHOCOTYLINAE Mühling, 1898b.— < STRIGEIDAE: Body short, broad, without division into distinct anterior and posterior regions. Cirrus and cirrus sac present. Genital pore at posterior end. See Prohemistomum.
- —. Prohemistomum Odhner, 1913, Zool. Anz., v. 42 (7), Aug. 1, 313, tod. spinulosum.— < CYATHOCOTY-LINAE: Body anterior to holdfast organ flattened. Lateral margins turned ventrally and united posterior to holdfast organ.
 - appendiculatum Ciurea, 1916, Zeitschr. Infekt., v. 17, 309–328, pls. 15–16: Prohemistomum.—Rumania t.—Reported for: #413 Felis (catus [dom.], species); #479 Canis (familiaris). Continued in later bulletins. Vectors (exp.): Aspius, Blicca, Carassius.
 - industrium Tubangui, 1922, Proc. U. S. Nat. Mus., v. 60, Art. 20, No. 2415, 4-7, pls. 2-3: Prohemistomum.—China '.—Reported for: #479 Canis (familiaris t. h.).
- Diplostomulum Brandes, 1892b, as collective group.—< STRIGEIDAE: Larval group embracing strigeid metacercariae with fore-body foliaceous, concave ventrally; hindbody a small conical prominence on postero-dorsal part of forebody; reserve bladder comprised of a system of more or less definitely arranged tubules with caleareous corpuscles, round or ellipsoidal, disposed in vesicles at the termini of small branches; usually a pair of lateral organs (so-ealled lateral suckers) on antero-lateral edges beside oral sucker; no true cyst of parasite origin.

- putorii Linstow, 1877 [Diplostomum 1]: Diplostomulum; Tetraeotyle 1.—Reported for: #511 Mustela (putorius t. h.).
- ·-. Tetracotyle, p. 802. < †223j.
 - foctorii Linstow, 1876: Tetracotyle.— Reported for: #511 Mustela (putorius t. h.).
- †**238**. *DISTOMATA*, pp. 78, 439, 612, 803.
- Distoma ¹, pp. 439, 612. <†238.
 intestinalis vulpis ^p Viborg, 1795:
 Dist.—Reported for: #485 Vulpes (species, vulpes).
 - kalapai "Nakagawa", fide Brumpt, 1922a, 363: Dist.—Reported for: #413 Felis (catus exp.); #479 Canis (familiaris exp.). Continued in later bulletins. 2d hosts: erabs.
 - *species Stiles & Hassall, 1894e, 250: Dist.—Maryland.—Reported for: #511 Mustela (vison).
- †239. FASCIOLOIDEA, pp. 78, 439, 612, 803.
- †**239***A*′′. MICROPHALLINAE, pp. 79, 440.
- —. Microphallus, p. 440. < †239A". †minus, p. 440: Microphallus.—
 Reported for: #413 Felis (catus exp.); #479 Canis (familiaris).
 Continued in later bulletins.
- †239-39. PLAGIORCHIIDAE, pp. 82, 613. †239-41. PLAGIORCHIINAE, pp. 79, 81, 82, 613.

239-41A. Plagiorehis, p. 613.

massino Petrow & Tiehonoff, 1927, Coll. Trav. Helm. Moseow, 150– 154, figs. 1–2: Plagiorchis.—Russia ^t.—Reported for: #413 Felis (catus [dom.]); #479 Canis (familiaris).

†240. Agamodistomum, p. 79.

*la-ruei Hughes, 1928, Parasitol., v. 20 (4), Dee., 413–416, figs. 1–2:
Agamodist.—Near Douglas Lake,
Miehigan*t.—Reported for: #561
Procyon (lotor lotor t. h.).

putorii h Molin, 1858 [Dist.]: Agamodist.—Paduat.—Reported for: #511 Mustela (putorius t. h.).

239. накмостомірає, р. 804.

—. Harmostomum, p. 805.

helicis, p. 806: Harmostomum.—Reported for: #528 Melcs (meles

- meles s. taxus °). Continued in later bulletins.
- leptostomum, p. 806 [Distoma 1]: Harmostomum; Heterolope o; Dist. 1 (Braehylaimus 1).—Reported for: #528 Meles (mcles meles s. taxus o t. h.).
- †244. FASCIOLIDAE, pp. 81, 440.
- †246. Faseiola, pp. 83, 440.
 - thepatica, pp. 83, 440: Fasciola; Cladocoelium.—Reported for: #413
 Felis (catus). Continued in later bulletins. Vectors, add: Galba (bulimoides, bulimoides techella, ferruginea, U. S. A.); Lymnaea (brazieri New South Wales, cubensis Puerto Rieo).
- †248. Faseiolopsis, p. 83.
 - †buski, p. 84 [Distoma¹]: Fasciolopsis.—Reported for: #479 Canis (familiaris). Continued in later bulletins. Vectors, add: Hippeutis (nitidella); Segmentina (hemisphaerula).
- †249. TROGLOTREMATIDAE, pp. 84, 440. See †250 Paragonimus and Troglotrema.
- †250. Paragonimus. pp. 85, 440.
 - compactus Cobbold, 1859d [Dist.]:

 Paragonimus; Mesogonimus¹.—Reported for: #455 Mungos (fasciatus° so. mungo s. mungos t. h.).
 - edwardsi Gulati, 1926, Mem. Dept. Agrie. India Vet. Ser. Caleutta, v. 3 (8), Nov., 187–190, pl. 10, figs. A-F: Paragonimus.—Kumaon Hills ^t, India.—Reported for: #427 Paradoxurus (grayi t. h.).
 - *kcllicotti Ward, 1908k, Trans. Amer. Mier. Soe., v. 28, 186: Paragonimus.—Ohio t, U. S. A.—Reported for: #413 Felis (catus [dom.], tigris); #479 Canis (familiaris t. h.); #511 Mustela (vison). Continued in later bulletins.
 - †pulmonalc *, p. 85 [Distoma 1]: Paragonimus; Mesogonimus 1.—So. ringeri.—Reported for: #413 Felis (catus, tigris); #479 Canis (familiaris).
 - [†pulmonis s, p. 85: Distoma l.—So. ringeri.—Reported for: #479 Canis (familiaris).]

tringeri, p. 85 [Distoma]: Paragonimus.—Reported for: #413 Felis (catus, species (panther), tigris); #479 Canis (familiaris, species (wolf)); #485 Vulpes (species). Continued in later bulletins.

rudis Diesing, 1850a [Distoma l]: Paragonimus.—Brazil¹.—Reported for: #497A Pteronura (brasiliensis t. h.).

*species Feldman & Essex, 1929, Ann. Parasitol., v. 7 (2), March, 204-207, pls. 1-2: Paragonimus.— Minnesota.—? So. kellicotti.— Reported for: #413 Felis (catus).

[*species Kellicott, 1894a, 123–126: Distoma '.—Ohio.—So. kellicotti.— Reported for: #479 Canis (familiaris).]

†westermani, pp. 85, 440 [Dist. 1]: Paragonimus; Clinost.¹; Mesogonimus 1.—Svns.: westermanii, westermanni.—Reported for: #413 Fclis (bengalensis, catus [dom.], microtis, pardus orientalis, rufa, sondiaca so. tigris sondiaca, species (panther, wild cat), tigris t. h., tigris coreensis); #427 Paradoxurus (larvatus); #479 Canis (familiaris, lupus, procyonoides, species (wolf)); #485 Vulpcs (japonica so.vulpes japonica, species, vulpes); #521 Martes (melampus); #528 Mcles (species (badger)). Continued in later bulletins.

—. Troglotrema Odhner, 1914, Zool. Bid. Upsala, 236, mt. acutum.— <†249 TROGLOTREMATIDAE: Body</p> globular to oval. Skin with unusually long spear-shaped spines, which project from cuticle for the greater part of their length, thickly set, not grouped. Suckers somewhat more muscular than in other genera of family. Acetabulum equatorial or slightly preequatorial. Pharynx present; ceca with irregular windings and here and there expansions and constrictions as in †250 Paragonimus. tory bladder Y-shaped with a primary stem branching slightly posttesticular, the 2 branches each about twice as long as main stem

and extending to acetabular zone or slightly preacetabular. Genital pore median, in acetabular zone, immediately caudad of opening of acetabulum. Cirrus pouch highly developed, cylindrical, extends in general in dorso-ventral direction and provided with thick, long muscle fibres; proximal end of pouch contains 2 globular vesiculae seminales; then follows a very long prostate eanal surrounded by welldeveloped glands; ductus ejaculatorius slender; cirrns very short, relatively broad; testes rather lateral, fields separate, zones practically coincide, chiefly or entirely postacetabular, may extend into acetabular zone, very large, elliptical, somewhat elongate, smooth edge but may show a lobation. Ovary in aeetabular zone, in part postacetabular, margin smooth, somewhat pyriform; vitellaria profusely developed, extend into oral and postcecal zones, chiefly dorsal, but preacetabular they extend somewhat more ventrad; postacetabular they extend mediad only about to ceca; postcecal they may bend toward median line; uterus postovarial, postaeetabular, intercecal, chiefly intertesticular, median, may extend rather close to caudal end; vagina short. rather large, thin-shelled, similar to †250 Paragonimus.

acutum Leuckart, 1842 [Distoma ¹]:
Troglotrema.—Reported for: #511
Mustela (putorius t. h.).

†252. ECHINOSTOMATIDAE, pp. 86, 440, 621. See †255 Echinostoma, †257 Euparyphium, †262 Echinochasmus, Echinoparyphium, and Mesorchis.

†255. Echinostoma, p. 86.

campi Ono, 1930, Dobuts. Zasshi, v. 42 (495), 7-16, 9 figs. [n. v.]: Echinost.— Manchuriat.—Reported for: #479 Canis (familiaris t. h.). Continued in later bulletins. 1st host Lymnaea (species). 2d host tadpole or loach.

cinctorchis Ando & Ozaki, 1923, 109–112, 118, figs. 1–3, figs. A, A', 2 [nv]: Echinost.—Japan⁴.—Reported for: #479 Canis (familiaris exp.). Continued in later bulletins; Rattus (norvegicus t. h.). Vectors: tadpoles of Rana (esculenta); Viviparus (malleatus).

conoideum⁸ Bloch, 1782a [Cuculanus¹]:

Echinost.; Dist. — Europe^t. — So.

echinatum. — Reported for: #479

Canis (familiaris). Continued in
later bulletins; Anas (boschas dom.
t. h.).

echinatum Zeder, 1803a [Dist.¹]:
Echinost.—Reported for: #479
Canis (familiaris). Continued in
later bulletins; Anast.h. Vectors:
Lymnaca (obscura, palustris, peregra ovata, stagnalis); Physa (fontinalis, ventricosa); Planorbis (corneus).

echiniferum * LaValette, 1855 [Cerearia]: Echinost.; Dist.—So. echinatum.—Reported for: #479 Canis (familiaris). Continued in later bulletins. Vector Paludina (vivipara t. h.).

[excavatum^s Rud., 1803a: Fasciola¹; Dist.¹; Holost.¹; Amphist.¹; Hemist.¹—Greifswald¹.—So. echinatum, fide Ward, 1895, 341.—Reported for: #479 Canis (familiaris). Continued in later bulletins; "Storch", Ardea (ciconia t. h.).]

gregalc Railliet & Henry, 1909, C. r. Soc. Biol., v. 66 (11), March 26, 447–449: Echinost.—Bucharest^t, Rumania.—Reported for: #479 Canis (familiaris t. h.).

hortense Asada, 1927, Tokyo Iji Shinshi, No. 2522, May [nv]; Jap. Med. World, Tokyo, v. 7 (10), Oet. 15, 304: Echinost.—Tokyo ^t, Japan.—Reported for: #479 Canis (familiaris t. h.).

incrassatum Diesing, 1850a [Dist.]: Echinost.—Brazil^t.—Reported for: #497A Ptcronura (brasiliensis); #499 Lutra (solitaria t. h.).

inerme Fuhrmann, 1904, 63-64, fig. 4: Echinost.—Reported for: #499 Lutra (species t. h.). liliputanum Looss, 1896b: Echinost.—
Egypt^t.—Reported for: #413
Fclis (catus). Continued in later bulletins; birds t. h.

militare Rud., 1803a [Fasciola]:

Echinost.; Dist. (Echinost.).—

Greifswald —Reported for: #479

Canis (familiaris). Continued in
later bulletins; Scolopax (arquata
t. h.).

piriforme Blane & Hedin, 1913, C. r. Soc. Biol., v. 74 (15), May 2, 884–885: Echinost. [; Ascocotyle '].— Montpellier 't, France.—Reported for: #479 Canis (familiaris t. h.).

recurvatum Linstow, 1873 [Dist.]: Echinost.—Reported for: #479 Canis (familiaris exp.). Continued in later bulletins; Anas (marila t. h.).

†revolutum Froelich, 1802 [Fasciola 1]:
Echinost.; Echisnostoma m.—Europe t.—Reported for: #479 Canis (familiaris exp.). Continued in later bulletins; Anas (boschas t. h.).
Vectors: ? Corbicula (producta, Formosa); Lymnaea (pervia, swinhoe, Formosa; vulgaris, France);
Physa (occidentalis); Planorbis (species, Formosa). Also reported for: #12 Homo, Formosa.

[species Parona, 1894a, 290: Distoma 1.—Modena, Italy.—? So. echinatum.—Reported for: #479 Canis (familiaris).]

†257. Euparyphium, pp. 87, 621. Syn. Isthmiophora^s Luehe, 1909.

[armata ° Rud., 1793a, putorii Gmelin, 1790a, renamed [Faseiola ¹]: Dist.¹—Reported for: #511 Mustela (putorius).]

[mclis, p. 807 [Fasciola 1]: Isthmiophora s; Echinost. —Europe t.—
Reported for: #413 Felis (catus, maniculata domestica); #479 Canis (familiaris); #485 Vulpes (vulpes); #499 Lutra (lutra); #511 Mustcla (lutreola, nivalis, putorius); #521 Martes (foina, martes); #528 Melcs (meles melcs t. h. syn. taxuso, species).]

[putorii⁸ Gmelin, 1790a [Faseiola¹]: Echinost.¹; Dist.¹; Planaria¹.—So. trigonoeephalum.—Reported for: #479 Canis (familiaris); #511 Mustela (putorius t. h.).]

trigonocephalum°, p. 621 [Fasciola¹]:

Euparyphium; Dist.¹; Echinost.¹—

So. melis.—Reported for: #413

Felis (eatus); #485 Vulpes (vulpes);

#499 Lutra (lutra); #511 Mustela
(lutreola, nivalis, putorius, species);

#521 Martes (foina, martes); #528

Meles (meles meles).

†262. Echinochasmus, pp. 88, 440.

elongatus Miki, 1923, Aichi Ig. Kw. Zasshi, (30), 162–168, 1 pl. [nv]; Jap. J. Zool., 1925, v. 1 (3), 89: Echinochasmus.—Japant.—Reported for: #479 Canis (familiaris exp.). Continued in later bulletins. Vectors: tadpoles of Rana (esculenta).

†japonieus, p. 88: Eehinoehasmus; Eehinochasmus perfoliatus; Echinost. Perfoliatum.—Japan t.—Reported for: #413 Felis (eatus); #479 Canis (familiaris).

†perfoliatus, p. 440: Echinochasmus; Echinost. — Hungary t.—Reported for: #413 Felis (catus [dom.]); #479 Canis (familiarist.h.). Continued in later bulletins. Vectors, add: Rhodeus (sinensis, China).

shieldsi Tubangui, 1922, Proc. U. S. Nat. Mus., v. 60 (2415), 1-4, pl. 1:

Echinochasmus perfoliatus.—
China t.—Reported for: #479

Canis (familiaris t. h.).

species Allen & Wickware, 1922, Parasitol., v. 14 (1), April, 28: Echinochasmus.—C a n a d a.—R eported for: #485 Vulpes (species (silver black fox)).

species Ross, 1930, Jap. J. Exp. Med., v. 8 (2), April, 74: *Echinochas*mus.—Japan.—Reported for: #479 Canis (familiaris).

—. Echinoparyphium Dietz, 1909, Zool. Anz., v. 34 (5), March 16, 187, tod. elegans.—†252 Echinostomatidae: Pars prostatica absent. Collar reniform with double row of spines not interrupted dorsally, spines of aboral row somewhat larger than those of oral row. Cuticular spines cover entire venter

and anteriorly also dorsum to some extent. Body small, somewhat Acetabulum preequatonarrow. rial, much larger than oral sucker. Pharynx present. Cirrus pouch somewhat long, extending somewhat dorsad of acetabulum; testes elongate, oval to elliptical, median, tandem, postequatorial; fields coincide; zones close or abut. Ovary globular, preequatorial, median or submedian, vitellaria postacetabular, from preovarian to posttesticular, chiefly postacetabular in extracecal, cecal and intercecal areas; uterus short, only slightly coiled, entirely preovarial. Eggs few, relatively large. Parasitic chiefly in birds.

†koidzumii Tsuchimochi, 1924, Dobuts. Zasshi, (428), 245–252 [nv]: Echinoparyphium.— Formosa '.— Reported for: #479 Canis (familiaris exp.). Continued in later bulletins. Vectors: Lymnaea (pervia, swinhoe); Planorbis (species). Also reported for: #12 Homo.

Mesorchis Dietz, 1909, Zool. Anz., v. 34 (6), March 30, tod. pseudoeehinatus.—†252 ECHINOSTO-MATIDAE: Body small to medium large, elongate, circular on cross section. Head collar reniform, armed with a continuous row of marginal spines. Skin of anterior body thickly set with spines. Acetabulum roundish, about on the border between 1st and 2nd fourths of body. Bifurcation of intestine preacetabular. Cirrus sac small, almost entirely preacetabular; testes about equatorial, median, tandem. Ovary globular, median, or slightly lateral, pretesticular; vitellaria in testicular and posttesticular zones, extending postcecal, in cecal, extra- and interceeal fields, extending forward at most to equator of anterior testis; uterus somewhat long, pretesticular. Eggs oval, 74 to 100 μ by 50 to 59 μ. Not Mesorchis h Linton, 1910, Publicat. No. 133, Carnegie Inst. Wash., 47.

- denticulatoides Isaitsehikow, 1924, Trudy Sibir. Vet. Inst. Omsk, v. 6, 86-89, 2 figs.: Mesorchis.—Crimea ^t.—Reported for: #479 Canis (familiaris t. h.).
- †265. OPISTHORCHHDAE, pp. 88, 441. See †267 Opisthorchis, †267i Metorchis, Parametorchis, †268 Clonorchis, †270 Pseudamphistomum.

†267. Opisthorchis, pp. 88, 441. Syn Paropisthorchis Stephens, 1912.

†caninus*, p. 89: Opisthorchis; Paropisthorchis*.—India*.—So. noverca, fide Leiper, 1913, 287.—Reported for: #479 Canis (species (Pariah dog t. h.)).

†conjunctus [p. 89] Cobbold, 1860a [Dist.]: Opisthorchis; Metorchis; Campula ; Dist. (Brachylaimus).
—America —Reported for: #479
Canis (familiaris, species); #485
Vulpes (fulva t. h., species (American fox)).

[conus h s of Gurlt, 1831, 193, not Creplin, 1825: Dist. L—So. felineus.—Reported for: #413 Felis (catus).]

†felineus, pp. 89, 441 [Distoma]:
Opisthorchis; [Prosthometra t;] Dicrocoelium ; Campula !.—Italy t.—
Reported for: #413 Felis (catus t. h.); #479 Canis (familiaris); #485 Vulpes (species); #523 Gulo (gulo, species).

[indicus o Stephens, 1912, Ann. Trop. Med. Parasitol., v. 6 (1B), May, 117–123: Paropisthorchis o t.—Kasauli t, India.—So. caninus.—Reported for: #479 Canis (species (Pariah dog t. h.)).]

[†kongenitum d, p. 89, for conjunctus: Distoma l.—Reported for: #479 Canis (familiaris).]

[lanceolatum d h o of Sieb., 1836, not Sehrank, 1790, not Rud., 1803: Dicrocoelium ; Dist. L—Europe.—So. felineum.—Reported for: #413 Felis (catus); #479 Canis (familiaris).]

[lanceolatum of van Tright, 1885a, Thierarzt, Wetzlar, v. 24 (4), Apr., 84-85: Dist. Utrecht.—So. felineum.—Reported for: #479 Canis (familiaris).]

†noverca, p. 89: Opisthorchis; Amphimerus; Distoma ¹.—India ¹.—Reported for: #413 Felis (catus); #479 Canis (familiaris, species); #485 Vulpes (species).

*pseudofelineus Ward, 1901, 180, Dist.¹ felineum of Ward, 1895, not Rivolta, 1884, renamed: Opisthorchis; Amphimerus.—Lincoln t, Nebraska.—Reported for: #413 Felis (catus [dom.] t. h., species (Persian cat)); #479 Canis (latrans).

[†sibiricum⁸, p. 89: Dist.¹—Siberia ^t.—So. felineus.—Reported for: #413 Felis (catus); #479 Canis (familiaris).]

tenuicollis Rud., 1819a [Dist.]: Opisthorchis; Dist.¹ (Brachylaimus¹); Campula¹.—Reported for: #413 Felis (catus); #479 Canis (familiaris); #523 Gulo (gulo). Continued in later bulletins; Phoca (barbata t. h.).

tenuicollis-felineus Looss, 1899b, see felineus and tenuicollis: Opisthor-chis.—Reported for: #413 Felis (catus).

†viverrini, p. 89 [Distoma]: Opisthorchis; Dist. (Dicrocoelium).— Reported for: #413 Felis (viverrina t. ll.); #437 Viverra (species).

wardi Wharton, 1921, Philip. J. Sci., v. 19 (2), Aug., 243–245, pl. 1, figs. 1–2: Opisthorchis.—Luzon t, Philippine Ids.—Reported for: #413 Felis (catus [dom.] t. h.).

†267i. Metorchis, p. 89.

albidus Braun, 1893e [Distonnal]:

Metorchis t; Opisthorchis t; Campula t; Distoma t (Dicrocoelium t).—

Königsberg t, Germany.—Reported for: #413 Felis (catus [dom.] t. h., maniculata domestica, silvestris, species (wild cat, misc.)); #479

Canis (familiaris); #485 Vulpes (species).

oesophagolongus Katsurada, 1914, Centralbl. Bakt., Orig., v. 73 (4/5), March 30, 310, figs. 10-11: Metorchis.—A young Apophallus mühlingi, fide Ciurea, 1924, Parasitol., 12.—Reported for: #413 Felis (catus [dom.]). Continued in later bulletins. Vectors: Abramis (brama t. h.); Accrina (ccrnua); Alburnus (lucidus); Blicca (björkna; Idus (idus); Lcuciscus (rutilus).

-. Parameterchis Skrjabin, 1913, Zool. Jahrb., Jena, v. 35 (3), 376-377, tod. mt. complexus.—†265 opisthor-CHIDAE: Flattened, moderatesized distomes, attenuated anteriorly and rounded posteriorly. Cuticle spiny. Suckers equal in size and weakly developed; acetabulum at border of 1st and 2nd fourth of body length. Pharvnx and a smaller esophagus present; intestinal ceca extend to posterior end of body. Testes lobed, tandem, postequatorial. Uterus rosetteshaped, preequatorial, surrounding the acctabulum; vitellaria lateral of uterus, preequatorial, uniting in front of uterus; ovary lobed, pretesticular; receptaculum seminis moderately large, lateral of ovary. Parasitie in gall bladder of mammals.

canadensis Price, 1929, Proc. U. S. Nat. Mus., v. 76 (12), 1, 3-4, fig. 2: Parametorchis.—Kirkfield ^t, Ontario, Canada.—Reported for: #511 Mustela (vison t. h.).

*complexus Stiles & Hassall, 1894f [Dist. 1 (Dicrococlium 1)]: Paramctorchis 1; Opisthorchis 1; Metorchis 1; Campula 1.—U. S. A. 1—Reported for: #413 Fclis (catus [dom.] t. h., species (Persian eat)); #479 Canis (familiaris).

*intermedius Price, 1929, Proc. U. S. Nat. Mus., v. 76 (12), 1, 2-3, fig. 1: Parametorchis.—Wisconsin ^t, U. S. A.—Reported for: #485 Vulpes (fulva t. h.).

*novcboracensis Hung, 1926, Proc. U. S. Nat. Mus, v. 69 (1), 1-2, fig. 1: Parametorchis.—Ithacat, New York.—Reported for: #413 Felis (catus [dom.] t.h.).

†268. Clonorchis, pp. 89, 441.

†cndemicus *, p. S9 [Distoma l hepatis]: Clonorchis; Dist. l (Brachylaimus l).—Reported for: #413 Fclis (catus, species); #479 Canis (familiaris).

†major °, p. 90: Clonorchis sincusis.— So. sinensis.—Reported for: #413 Felis (catus); #479 Canis (familiaris).

†sincnsis, pp. 90, 441 [Dist.¹]: Clonor-chis; Opisthorehis¹.—Reported for: #413 Felis (catus [dom.], species (wild eat)); #479 Canis (familiaris); #511 Mustela (Lutreola) species (Siberian mink); #521 Martes (species); #528 Meles (species (badger)). Continued in later bulletins. Vectors, add: Parapelecus (cigenmanni); Sarcocheilichthys (kobayashii).

[†spathulatum^d, p. 90: Distoma¹.— So. sinensis.—Reported for: #413 Felis (catus); #479 Canis (familiaris).]

†270. Pseudamphistomum, p. 90.

[campanulatum * Ercolani, 1874: Dist. —So. truncatum. Syn. complanatum —Reported for: #413 Fclis (catus); #479 Canis (familiaris t. h.).]

[conus* Creplin, 1825 [Dist.1]: Opisthorchis 1; Dist.1 (Dierocoelium 1).—So. truncatum. Syn. conism 1886.—Reported for: #413 Felis (catus [dom.]); #479 Canis (familiaris); #485 Vulpes (fulva, vulpes).]

danubiense Ciurea, 1913, Zeitsehr. f. Infekt. d. Haustiere, v. 14 (7), 459–463, pl. 14, fig. 2: Pseudamphist.—Somova t.—Reported for: #413 Felis (catus [dom.] t. h.); #479 Canis (familiaris).

†truncatum, p. 90 [Amphist.]: Pseud-amphist.; Dist.¹; Dist.¹ (Dierocoelium¹); Metorchis¹; Opisthorchis¹.—Europe t.—Reported for: #413 Fclis (catus); #479 Canis (familiaris, lupus); #485 Vulpes (species, vulpes); #523 Gulo (borealis so. gulo). Continued in later bulletins; Phoca (vitulina t. h.).

†271. HETEROPHYIDAE, pp. 90, 441.
See Adleriella, †271P Apophallus,
†271J Ascocotyle, †271L Centrocestus, †271F Cryptocotyle, Dexiogonimus, Diorchitrema, Euryhelmis, Haplorchis, †272 Heterophyes,
†273 Metagonimus, Monorchotrema,
Nanophyetus, Parascocotyle, Pon-

ticotrema, Pygidiopsis, Stictodora, Tauridiana.

-. Adleriella Witenberg, 1930, Ann. Mag. Nat. Hist., ser. 10, v. 5, June 27, 412, tod. minutissima, for Adleria ho Witenberg, 1929, Ann. Trop. Med. Parasitol., v. 23 (2), June, 143, 206, tod. minutissima [not Adlcria Rohwer & Fagan, 1917, insect]. — †271 нетегорну-IDAE: Very small. Body oval or spindle-shaped, circular on cross section. Circumoral spines absent. Testis single, situated anteriorly to ovary and receptaculum seminis. Type of subfamily AD-LERIELLINAE Witenberg, 1930, Ann. Mag. Nat. Hist., ser. 10, v. 5, 412 renaming of Adlerinae Witenberg, 1929, Ann. Trop. Med. Parasitol., v. 23 (2), June, 139, 206.]

minutissima Witenberg, 1929, Ann. Trop. Med. Parasitol., v. 23 (2), June, 143, 206–209, figs. 30–33 [Adleria ho]: Adleriella ho]: Adleriella comparison (catus [dom.]); #479 Canis (familiaris).—Vectors: Barbus (canis); Discognathus (species); Mugil (capito, cephalus); Varicorhinus (species).

†271P. Apophallus [p. 91] Luehe, 1909, mt. mühlingi.—†271 heterophyi-DAE: Body ovoid to very elongate. Prepharynx short; esophagus long; intestinal bifurcation usually nearer to acetabulum than to oral sucker; intestinal ecea slender, ending as in Cryptocotyle. Acetabulum relatively well developed, opening into a small, nonmuscular genital sinus; genital ducts open into genital sinus at base of two papilliform gonotyls. Genital pore preaectabular. Seminal vesicle well developed, C- or Sshaped, dorsal of uterine coils; testes ovoid, or globular, situated near posterior end of body, the right testis usually behind left. Ovary ovoid or globular, at right of median line cephalad of seminal receptacle; vitellaria fill posttesticular space and extend usually to acetabulum or beyond. Uterus as in *Cryptocotylc*. Syns. (fide Price, 1931): *Cotylophallus* ** Ransom, 1920, Proc. U. S. Nat. Mus., v. 57 (2322), June 16, 529, 554–555, tod. *vcnustus; Rossicotrcma* ** Skrjabin & Lindtrop, 1919, Isvest. Donsk. Vet. Inst. Novotscherkassk, v. 1 (1), 40–41, 44, tod. *donicum*.

donicum Skrjabin & Lindtrop, 1919, Isvest. Donsk. Vet. Inst. Novotscherkassk, v. 1 (1), 41-43, 44, pl. 1, fig. 3 [Rossicotremas]: Apophallus.—Russiat.—Reported for: #413 Felis (catus [dom.]); #479 Canis (familiaris t. h.). Continued in later bulletins. Vectors: Abramis (brama); Blicca (björkna); Lucioperca (sandra, volgensis); Perca (fluviatilis); Scardinius (erythrophthalmus).

mühlingi Jaegerskiöld, 1899a [Dist. 1]:
Apophallus t; Tocotrema 1.—Pillau t.—Reported for: #413 Felis (catus [dom.]); #479 Canis (familiaris). Continued in later bulletins; Larus (ridibundus t. h.).
Vector: Blicca (björkna), Rumania.

[*venustus * Ransom, 1920, Proc. U. S. Nat. Mus., v. 57 (2322), June 16, 555–558, figs. 22–25: Cotylophallus *.—Zoo, Washington, D. C. t—So. donicum, fide Price, 1931.—Reported for: #413 Felis (catus [dom.]); #479 Canis (familiaris); #486 Alopex (lagopus t. h.).]

†271J. Aseoeotyle [p. 91] Looss, 1899b, tod. colcostoma.—†271 HETERO-PHYIDAE: Mouth surrounded by crown of spines; oral sucker with clongated caudal cecum, extending backward on dorsal side of prepharynx; prepharynx long; pharynx near bifureation of intestine, which is nearer to acetabulum than to oral sueker. Aeetabulum median, postequatorial, opening to exterior, in some species, if not in all, through genital pore. Genital sinus, which opens to exterior through genital pore, and in which vas deferens and vagina terminate, is situated immediately preacetabular. Well-developed seminal vesicle postacetabular; testes globular or oval, side by side, near caudal end of body; seminal receptacle pretesticular; ovary globular or oval, on right side of median line in front of seminal receptacle; vitellaria not extending anterior of region of genital pore; coils of uterus frequently overlap intestinal eeca, but usually do not extend in front of genital pore. Eggs not over $25~\mu$ long.

arnaldoi Travassos, 1928, Ann. Fae. med. São Paulo, v. 3, 2–3, figs. 1–2: Ascocotyle; Parascoeotyle¹; Phagieola¹; Ascocotyle (Phagieola).—Brazil¹.—Syn. arnoldi ° 1929.—Reported for: #479 Canis (familiaris). Continued in later bulletins.

†271L. Centrocestus Looss, 1899b, mt. cuspidatus.—†271 HETEROPHYI-Mouth surrounded by a DAE: double crown of spines. Prepharynx long; pharynx near bifurcation of intestine; intestinal ceea extend into eaudal region of body. Acetabulum median. Genital sinus median, immediately preaectabular. Prostatic portion of vas deferens well developed, situated along right side of acetabulum; well-developed seminal vesicle postaeetabular, arranged in a U-shaped loop extending across median field, anterior limb of loop the longer, base of the U to the left; testes oval, elongated transversely, near candal border of body, side by side, right and left of median line. Seminal receptacle median, pretesticular; ovary to right of seminal receptacle, in front of right testis, ovoid in form; vitellaria arranged in numerous lobules in lateral fields, extending from posttesticular region nearly to bifureation of intestine, eneroaching upon median field preacetabular, and extending in this region inwards to or nearly to median line. Transverse vitelline ducts in neighborhood of boundary between ovarian and testicular zones; uterus arranged in a few transverse loops, in the space between testes and acetabulum; terminal portion of uterus (metraterm) passes forward to genital sinus along left side of acetabulum. Syn. †273a Stamnosoma*, p. 93.

†armatus, p. 93 [Stamnosoma *]: Centrocestus.—Japan †.—Reported for: #413 Felis (catus); #479 Canis (familiaris exp.). Continued in later bulletins.

caninus s Leiper, 1913, J. London School Trop. Med., v. 2 (3), Nov., 176, 177, 1 fig.: Centroccstus cuspidatus.—Formosa t.—So. cuspidatus, fide Witenberg, 1929, 212.— Reported for: #479 Canis (familiaris t. h.).

cuspidatus Looss, 1896b [Dist.]: Centrocestus; Anoiktostoma.— Egypt.—Reported for: #479 Canis (familiaris). Continued in later bulletins; Milvus (parasiticus t. h.).

[†formosanum, p. 93: Stamnosoma *.— Formosa t.—Reported for: #413 Felis (catus exp.); #479 Canis (familiaris exp.). Continued in later bulletins; Nycticorax (nycticorax t. h.).]

†271F. Cryptocotyle [p. 90] Luche, 1899, 539, tod. concava.—†271 HETE-ROPHYIDAE: Body evoid to linguiform. Prepharynx very short; esophagus short; intestinal bifurcation nearer to oral sucker than to acetabulum; intestinal ecea slender, ending posttesticular in posterior end of body. Acetabulum rudimentary, in anterior wall of the spacious, more or less museular, genital sinus; genital duets open into sinus at base of a single papilliform gonotyl; genital aperture postacetabular, in center of genital sinus. Seminal vesiele well developed, curved in a more or less S-like manner, dorsal of uterine coils; testes near posterior end of body, irregularly oval or slightly lobed, either side by side or right testis obliquely behind left. Ovary irregularly oval or lobed, situated

to right of median line and cephalad of seminal receptacle; vitellaria fill posteccal space and extend anteriorly to acetabulum or beyond; uterus with few loops, confined to intercecal space between ovary and genital sinus.

Syns. (fide Price, 1931): Ciureana ⁸ Skrjabin, 1923, Trudy Gos. Inst. Exp. Vet. Moscow, v. 1 (1), 68, tod. quinqucangularis; Hallum ⁸ Wigdor, 1918, J. Amer. Vet. Med. Assoc., v. 54, n. s., v. 7 (3), Dec., 381, 383, tod. caninum; Tocotrema ⁸ Looss, 1899b, tod. lingua.

americana ^e Ciurea, 1924, Parasitol., v. 16 (1), Jan., 15, for lingua of America: Cryptocotyle.—So. lingua.—Reported for: #479 Canis (familiaris). Continued in later bulletins.

[*caninum * Wigdor, 1918, J. Amer. Vet. Med. Assoc., v. 54, n. s. v. 7 (3), Dec., 383, 384, figs. 1-4: Hallum *.—Detroit*, Michigan.—So. lingua.—Reported for: #479 Canis (familiaris t. h.).]

concava Creplin, 1825a [Dist.]: Cryptocotyle t; Dist.¹ (Dicrocoelium¹); Cotylogonimus¹; Tocotrcma .— Reported for: #413 Felis (catus [dom.]); #479 Canis (familiaris). Continued in later bulletins; Colymbus (rufogularis t. h.). Vectors: Gobius (ratan, Crimea); Pleuronectes (platcssa); Trachurus (trachurus, Crimea).

*lingua Creplin, 1825a [Dist.]: Cryptocotyle; Tocotrema*t; Cotylogonimus¹; Dist.¹ (Dicroeoelium¹).—
Europet.—Reported for: #413 Felis (catus [dom.]); #479 Canis (familiaris); #485 Vulpes (fusca lapsus for ? fulva, species (silver fox)); #486 Alopex (lagopus). Continued in later bulletins; Larus (marinus t. h.). 1st host: Littorina (*littorea). 2d hosts: Cottus (scorpius); Tautogolabrus (*adspcrsus).

quinqueangularis Skrjabin, 1923, Trudy Gos. Inst. Exp. Vet. Moscow, v. 1 (1), 68-70, 1 fig. [Ciureanas]: Cryptocotylc.—Russiat.— Reported for: #413 Felis (catus [dom.] t. li.). [ransomii Isaitsehikow, 1924, Trudy Sibir. Vet. Inst. Omsk, v. 6, 76-81, 1 fig.: Hallum*.—Crimea t.—Reported for: #479 Canis (familiaris t. h.).]

tanaitici Skrjabin, 1924, Berl. Tierärzt.
Woehenschr., v. 40 (20), p. (6)
[nomen nudum]: Cryptocotyle.—
Dongebiet ^t, U. S. S. R.—Reported
for: #413 Felis (catus [dom.] t. h.).

—. Dexiogonimus Witenberg, 1929, Ann. Trop. Med. Parasitol., v. 23 (2), June 27, 143, 170, tod. mt. ciureanus.—†271 HETEROPHYIDAE: Body rounded posteriorly, tapered anteriorly, anterior part may be slightly wider than posterior one. Prepharynx and esophagus well marked. Acetabulum modified, having a tubule-like slit instead of a eavity and is included in ventrogenital sac. Testes lie side by side at posterior end of body; retortlike seminal vesicle may be divided by constrictions into several parts; expulsor absent. Large globular seminal receptacle lies in front of right testis; ovary pretesticular, median; vitellaria chiefly postovarial; uterine coils fill free space between testes and ventro-genital sac and do not extend beyond these organs; ventro-genital sac situated near border of body, its opening guarded by small muscular papillae. Excretory vesicle Y-shaped with stem as short as branches. Adults parasitic in mammals and birds.

ciureanus Witenberg, 1929, Ann. Trop.
Med. Parasitol., v. 23 (2), June
27, 140, 170-173, 214, figs. 12-14:
Dexiogonimus t.—Palestine t.—
Reported for: #413 Fclis (catus [dom.]); #479 Canis (familiaris).
Continued in later bulletins. Vectors: Barbus (canis); Discognathus (species); Lichia (glauca); Mugil (capito, ccphalus); Tilapia (galilca, simonis).

—. Diorehitrema Witenberg, 1929, Ann. Trop. Med. Parasitol., v. 23 (2), June 27, 143, 173–174, tod. mt. pscudocirrata.—†271 нетекорнующе: Body pear-shaped. Prephar-

ynx and esophagus well marked. Globular acetabulum included in ventro-genital sac which is near mid line and contains no gonotyl. Testes lie side by side at posterior end of body; single small seminal vesicle is connected with a large expulsor. Ovary in front of right testis; globular seminal receptacle in front of left testis; vitellaria postovarial; uterine coils do not pass beyond testes and ventrogenital sac. Adults parasitic in mammals.

pseudocirrata Witenberg, 1929, Ann. Trop. Med. Parasitol., v. 23 (2), June 27, 140, 174–175, 214, fig. 15: Diorchitrema.—Palestinet.—Reported for: #413 Felis (catus [dom.]); #479 Canis (familiaris). Vectors: Mugil (capito, cephalus).

-. Euryhelmis Poche, 1926a, Archiv f. Naturg., Abteil. A, 2. Heft, 150, tod. squamula [Eurysoma h Dujardin, 1845a, mt. squamula, renamed; not Eurysoma Koch, 1840, arachnoid].—<†271 HETEROPHYI-DAE: Body broader than long, not divided into forebody and hindbody. Oral sucker without spines; mouth directed nearly or quite forwards. Acetabulum about equatorial, opening directed forwards: no fold hanging over acetabulum or genital pore. A pseudodermis on spinose hind end of body. Prepharynx short; postpharynx medium long; ceca medium long, at first rather narrow but increasing in breadth and about parallel to body margin; excretory vesicle T-shaped with stem which is widened in its anterior portion and with rather long branches. Genital pore immediately preacetabular; no genital sucker. Testes broad, oviform, lobate, situated nearly symmetrically slightly precandal, close to end of branches of excretory vesicle, diagonal; vasa efferentia rather long, running almost straight mediad; vesicula seminalis small; eirrus sac postacetabular, dextral, slender, rather long. Ovary in front of and somewhat lateral of right testis, oviform, lobate; receptaculum seminis postovarial, rather large; vitellaria composed of rather numerous follicles, highly developed, extending nearly entire length of body margin; uterus rather short, narrow, with only two slings not extending posteecal but reaching caudad to branches of excretory vesicle and lying especially in left half of body. Eggs rusty brown.

squamula Rud., 1819a [Dist.]: Euryhclmis; Eurysomahot; Dist.]
(Dicrocoelium); Monost.—Reported for: #511 Mustela (putorius t. h.).

—. Haplorchis Looss, 1899b, tod. pumilio.—†271 HETEROPHYIDAE: Body very small, delicate, forebody somewhat narrower more motile than hindbody. rather thickly spinose, especially of forebody. Prepharynx long; pharynx distinct. Genital pore postesophageal, submedian, intercecal, somewhat caudad of bifurcation of intestine, near vesicula seminalis; genital cloaca muscular, spinose. Cirrus absent: testis single, large, postovarial; vesicula seminalis rather large. divided into 2 bulbs, preovarial: prostatica small. Ovarv slightly preequatorial, pretesticular; Laurer's canal and receptaculum seminis present, latter about as large as ovary; vitellaria slightly developed, rather lateral; uterus extends to extreme caudal end of body more or less completely filling free space caudad of genital pore. Ova very large in comparison with the body and rather numerous. Cf. Monorchotrema.

pumilio Looss, 1896b [Monost.]:

Haplorchis t.—Egypt t.—Reported
for: #479 Canis (species (wolf)
exp.). Continued in later bulletins; Pelecanus (onocrotalus t. h.).
Vector Clarotes laticeps, from

Egypt.

†272. Heterophyes, pp. 92, 441.

aequalis Looss, 1902n: Heterophyes.— Egypt t.—Reported for: #413 Felis (catus [dom.]); #479 Canis (familiaris, species (Persian wolf)). Continued in later bulletins. Vectors: Barbus (canis); Epinephelus (enaeus); Lichia (amia, glauca); Mugil (auratus, capito, cephalus); Tilapia (simonis).

continuus Onji & Nishio, 1916, Iji Shinbun No. 949, 589 [nv]; Onji & Nishio, 1924, Chiba Ig. Sem. G. Z., v. 2 [nv]: Heterophyes.— Japan ^t.—Reported for: #413 Felis (catus exp.); #479 Canis (familiaris). Continued in later bulletins; Vector: Mugil. Amidori t. h.

dispar Looss, 1902n: Heterophyes.— Egypt t.—Reported for: #413 Felis (catus [dom.]); #479 Canis (familiaris, species (Persian wolf)). Continued in later bulletins. tors: Barbus (canis); Epinephelus (enaeus); Lichia (amia, glauca); Mugil (auratus, capito, cephalus); Tilapia (simonis).

fraternus ⁸ Looss, 1894d [Distoma ¹]: Heterophyes; Coenogonimus o; Cotylogonimus o.—Egypt t.—So. heterophyes, fide Witenberg, 1929, 146.—Reported for: #413 Felis (catus); #479 Canis (familiaris). Continued in later bulletins; Pelecanus (onoerotalus t. h.).

†heterophyes, p. 92 [Dist.1]: Heterophyes; Coenogonimus o; Clinost.1; Paragonimus!.—Egypt t.—Reported for: #413 Felis [dom.]); #479 Canis (familiaris); #485 Vulpes (species, vulpes, vulpes nilotieus). Continued in later bul-Vectors: letins. Acanthogobius; Barbus (canis); Epinephelus (enaeus); Lichia (amia, glauca); Mugil (auratus, capito, cephalus, species); Tilapia (simonis). 1st host Tympanotomus (microptera, Japan).

†katsuradai, p. 441: Heterophyes.— Reported for: #479 Canis (familiaris exp.).

limatus Looss, 1902n, Centralbl. f. Bakt., Orig., v. 32 (12), 890, 891: Heterophyes dispar.—Egypt 1.—So. dispar, fide Witenberg, 1929, 146.— Reported for: #413 Fclis (catus [dom.] t. h.).

†nocens s, pp. 92, 441: Heterophyes.— So. heterophyes.—Reported #413 Felis (catus exp.); #479 Canis (familiaris exp.).

persieus Braun, 1901c [Cotylogonimus o]: Hetcrophyes.—So. heterophyes, fide Witenberg, 1929, 146.— Reported for: #479 Canis (lupus, species (Persian wolf t. h.)).

sentus Looss, 1902n, Centralbl. f. Bakt., Orig., v. 32 (12), 890, 891. Heterophyes heterophyes.—So. heterophyes, fide Witenberg, 1929, 146.—Egypt t.—Reported for: #413 Fclis (catus [dom.] t. h.); #479 Canis (familiaris).

†273. Metagonimus, pp. 92, 441. Syn. Loossia a 1915.

[dobrogiensis⁸ Ciurea, 1915, Zeitschr. f. Infektkrankh. d. Haustiere, v. 16, 454: Loossia s.—Dobrogea t, Rumania.—So.†yokogawai.—Reported for: #479 Canis (familiaris). Continued in later bulletins; Pelecanus (onocrotalus t. h.).]

tovatus [p. 92] Yokogawa, 1913: Metagonimus.—Japan t.—Reported for: #479 Canis (species).

parvus ⁸ Ciurea, 1915, Zeitschr. f. Infektkrankh. d. Haustiere, v. 16, 453-454, pl. 1, fig. 4 [Loossia s]: Mctagonimus.—Somova t.—So. †yokogawai.—Reported for: #413 Felis (catus [dom.] t. h.); #479 Canis (familiaris). Continued in later bulletins. Vector Esox (lucius).

romanicus & Ciurea, 1915, Zeitschr. f. Infektkrankh. d. Haustiere, v. 16, 446-453, figs. 1-3, pl. 1, figs. 1-3 [Loossia *]: Metagonimus.—Somova t.—So. †yokogawai.—Reported for: #413 Felis (catus [dom.]); #479 Canis (familiaris t. h.). Continued in later bulletins. Vectors: Abramis (brama); Aspius (aspius); Blieca (björkna); Carassius (carassius); Esox (lucius); Idus (idus); Scardinius (erythrophthalmus).

species Onji, 1921, Centralbl. f. Bakt., Orig., v. 86 (6), July, 503: Metagonimus.—Japan.—Reported for:

#528 Meles (species).

takahashii Suzuki, 1929, Okayama Igakkwai Zasshi, v. 41, 1513 (footnote) [nomen nudum]; 1931, Zool. Rec., Vermes, 59: Metagonimus. — Okayama¹, Japan. — Reported for: #413 Felis (catus); #479 Canis (familiaris).

†yokogawai, pp. 92, 441: Mctagonimus; Yokogawa*.—Syns.: yokogawa^m, yokogawi^m, yokogowai^m.— Reported for: #413 Felis (catus, species); #479 Canis (familiaris, species). Continued in later bulletins.

—. Monorchotremas, p. 441. HETEROPHYIDAE; MONORCHOTRE-MINAE Nishigori, 1924, J. Med. Assoc. Formosa, no. 237, 569. So. Haplorchis Looss, 1899b, tod. pumilio, fide Witenberg, 1930, Ann. Mag. Nat. Hist., ser. 10, v. 5, 412. †taichuis, p. 441: Monorchotrema; Haplorchis.—So. taihokui, fide Stunkard, 1929, 117.—Reported for: #413 Felis (catus [dom.]); #479 Canis (familiaris). Continued in later bulletins. Vectors, Barbus (canis); Gambusia (affinis); Tilapia (simonis); Varicorhinus (species).

†taihokui^s, p. 441: Monorchotrema t.— So. Haplorchis pumilio, fide Witenberg, 1930, 412.—Reported for: #413 Felis (catus); #479 Canis (familiaris). Continued in later bulletins. Vectors, add: Barbus (canis, longiceps); Mugil (capito, cephalus); Tilapia (galilea, nilotica, simonis).

—. Nanophyetus Chapin, 1927, J. Parasitol., v. 14 (1), Sept., 60, tod. salmincola (renaming of Nanophyes h o Chapin, 1926, N. Amer. Vet., v. 7 (4), April, 36, tod. mt. salmincola [not Nanophyes Schönli., 1838, coleopteron]).—†271 нете-корнуюдае: Very small; cuticle armed. Prepharynx very short, pharynx close behind well-developed oral sucker; esophagus short; intestinal ceca commence immediately preacetabular and extend postequatorial to about equator of testes. Acetabulum median,

slightly preequatorial. Genital pore surrounded by a very weakly developed sucker, located directly behind and at some distance from acetabulum. Testes oval, the long axis parallel to long axis of body, postequatorial, extracecal; seminal vesicle well developed, clavate, at left of genital pore. Receptaculum seminis ovate, antero-dorsal of seminal vesicle; ovary globular, at right and slightly behind acetabulum; vitellaria composed of large follicles, generally distributed dorsally, extending somewhat lateroventrally, coils of uterus few, interand posttesticular. Eggs few and large.

*salmincola Chapin, 1926, N. Amer. Vet., v. 7 (4), April, 36-37, 1 fig. [Nanophyes h o]: Nanophyetus.— Cause of "salmon poisoning" in dogs.—Corvallis ^t, Oregon, U. S. A.— Syn. Distorulum oregoncus is Ward & Mueller, 1926 (cause of pop-eye disease of trout fry), fide Price, 1929, 290.—Reported for: #413 Felis (catus [dom.], fasciata fasciata, fasciata pallescens exp.); #479 Canis (familiaris t.h., lestes, species (coyote)); #485 Vulpes (fulva exp., species); #486 Alopex (lagopus exp.); #511 Mustcla (vison energumenos); #561 Procyan (lotor exp., psora pacifica s. lotor pacifica); #576 Ursus (americanus exp.). Continued in later bulletins. 1st host Goniobasis (plicifera silicula). hosts, northwestern U. S. A.: Oncorhynchus (keta, kisutch, species, tschawytscha); Salvelinus (fontinalis, species); Salmo (clarkii, gairdnerii, iridiens, species).

—. Parascocotyles Stunkard & Haviland, 1924, Amer. Mus. Novitates, No. 126, July 24, 3, tod. minuta.—
†271 heterophyidae: Body pyriform; dorsal wall of oral sucker provided with contractile triangular liplike appendage anteriorly and with a conical appendage posteriorly; oral aperture surrounded by a single row of conspicuous spines; prepharynx long, esopha-

gus short. Acetabulum included in genital sac. Testes lie side by side at posterior margin of body; seminal receptacle pretesticular on mid line; seminal vesicle divided in parts by constrictions; there is no marked expulsor. Ovary in front of right testis; vitellaria at sides of testes; uterus coils between testes and genital opening; ventro-genital sac on mid line, eontains besides globular or oval acetabulum, one or two tuberelelike gonotyls, the surface of which may bear chitinized bars. Excretory bladder is Y- or T-shaped. Adults parasitic in mammals and birds. Fide Travassos, 1930, 63, 65, Parascocotyle is so. Phagicola Faust, 1920, Philippine J. Sci., v. 17 (6), Dec., 630, tod. mt. pithecophagicola, and Phagicola is a subgenus of Ascocotyle.

ascolonga Witchberg, 1929, Ann. Trop. Mcd. Parasitol., v. 23 (2), 142, 194–197, 225, figs. 26–28: Parascocotyle; Ascocotyle! (Phagicola).—Palestine!.—Reported for: #413 Felis (catus [dom.]); #479 Conis (familiaris). Vectors: Tilapia (galilea, simonis).

italica Alessandrini, 1906, Bol. Soc. zool. ital., Roma, scr. 2, v. 6, 221–223 [Ascocotyle]: Parascocotyle; Ascocotyle | (Phogicola).—Italy t.—Reported for: #479 Canis (familiaris t. h.).

*longa Ransom, 1920, Proc. U. S. Nat. Mus., v. 57 (2322), June 16, 564-566, fig. 29 [Ascocotyle]: Parascocotyle; Ascocotyle¹ (Phagicola).—Zoo, Washington, D. C. —Reported for: #413 Felis (catus [dom.]); #479 Canis (fomiliaris, species (Persian wolf)); #485 Vulpes (species (silver black fox)); #486 Alopex (lagopus t. h.). Vectors: Barbus (canis); Lichia (amia); Mugil (capito, cepholus).

minuta Looss, 1899b [Ascocotyle]:

Parascocotyle; Ascocotyle [Phagicola].—Egypt [-Reported for:

#413 Fclis (catus); #479 Canis (familiaris). Continued in later bulletins.

*nana Ransom, 1920, Proc. U. S. Nat. Mus., v. 57 (2322), June 16, 566-568, fig. 30 [Ascocotyle¹]: Parascocotyle; Ascocotyle¹ (Phagicola).—Zoo, Washington, D. C. t—Reported for: #486 Alopex (logopus t. h.).

—. Ponticotrema Isaitschikow, 1927, Trudy Sibir. Vet. Inst. Omsk, v. 9, 142, 146, 147, tod. euxini.—†271 HETEROPHYIDAE.

cuxini Isaitschikow, 1927, Trudy Sibir. Vet. Inst. Omsk, v. 9, 142– 146: Ponticotrema ^t.—Crimea ^t.— Reported for: #413 Felis (catus [dom.] t. h.).

-. Pygidiopsis Looss, 1907, mt. genata.—†271 HETEROPHYIDAE: Pear-shaped body divided into an almost globular posterior part and a concave anterior part. sucker without appendages; prepharynx long; esophagus short. Acetabulum is included in genital sac, which is median and contains a small gonotyl in its left anterior angle; testes lie at posterior margin of body, side by side; seminal vesicle pretesticular on mid line; seminal vesicle may be divided by constrictions. Ovary, ventrally to seminal receptacle; vitellaria at sides of testes; uterus coils between ovary and genital sac. Excretory vesicle T-shaped with branch equal to stem. Adults parasitic in mammals and birds.

genata Looss, 1907: Pygidiopsis t.— Egypt t.—Reported for: #413 Fclis (catus [dom.]); #479 Canis (familiaris, species (Persian wolf)). Continued in later bulletins; Pelecanus (onocrotalus t. h.). Vectors: Barbus (canis); Tilapia (galilea, nilotica, simonis).

†summus Onji & Nishio, 1916, Iji Shinbun No. 949, 589, no. 954, 941 [nv]; Onji & Nishio, 1924, Chiba Ig. Sem. G. Z., v. 2 [nv]: Pygidiopsis.—Japan t.—Reported for: #413 Felis (catus exp.); #479 Canis (familiaris). Continued in later bulletins; Amidori t. h. Vector: Mugil. Also reported for: #12 Homo, Okayama, Japan. —. Stictodora Looss, 1899b, mt. tod. sawakinensis.—†271 нетекорнут-DAE; HETEROPHYINAE, fide Witenberg, 1929, 176; < STICTODORIDAE, fide Poche, 1926a.—Body elongated. Prepharynx and esophagus well marked. Acetabulum absent. Genital sae is filled by large protrusible gonotyl armed with spinelike plates; genital pore opens at base of gonotyl. Testes median, postequatorial, oblique; seminal vesicle consists of two parts divided by a constriction and unites with Ovary in front a small expulsor. of right testis; globular seminal receptacle between testes; vitellaria confined to posterior 3rd of body; uterus coils between genital aperture and posterior end of body. Excretory duct Y-shaped with stem as short as the branches. parasitic in mammals and birds.

sawakinensis Looss, 1899b: Stictodora.—Sawakin t, Egypt.—Reported for: #413 Fclis (catus [dom.]); #479 Canis (familiaris). Continued in later bulletins; Larus (species t. h.). Vectors: Mugil (capito, cephalus).

-. Tauridiana Isaitschikow, Trudy Sibir. Vet. Inst. Omsk. v. 6. 82, 84, tod. pontica.—†271 HETERO-PHYIDAE: Body very small, delicate, transparent, elongate, flattened dorso-ventrally. Oral sucker large, well developed. Prepharynx more or less long; pharynx almost cylindrical or oval. Acetabulum rudimentary, united with genital pore into one organ, left of body axis. Testes round, in postequatorial, diagonal fields and zones overlap; vesicula seminalis well developed, pear-shaped, pretesticular, to right of ovary and genital pore. Ovary postequatorial, pretesticular. Parasitic in intestine of domesticated carnivores.

pontica Isaitsehikow, 1924, Trudy Sibir. Vet. Inst. Omsk, v. 6, 82–84, 1 fig.: Tauridiana '.—Kerehi', Crimea.—Reported for: #479 Canis (familiaris t. h.). †275. DICROCOELIDAE, pp. 93, 442, 621. †276. DICROCOELINAE, pp. 94, 621.

†276I. Platynosomum, pp. 94, 621.

fastosum Kossack, 1910, Centralbl f. Bakt., v. 56 (2), Oct. 21, 116– 117. fig. 2: Platynosomum.—Zoo, Königsberg ^t.—Syn. faustosum ^c.— Reported for: #413 Fclis (bengalensis minuta s. minuta t. h., catus [dom.]).

planicipitis Cameron, 1928, J. Helminthol., v. 6 (2), June, 87–90, fig. 1: Platynosomum.—London Zoo, from Malay States t.—Reported for: #413 Felis (planiceps t. h.).

[symmetricum * Baylis, 1918, Ann. Mag. Nat. Hist., ser. 9, v. 2 (7), 111–114, pl. 14: Dieroeoelium lanceatum.—Georgetown , Brit. Guiana.—So. fastosum, fide Dollfus, 1922, Bul. Soc. zool. France, 319.—Reported for: #413 Felis (bengalensis minuta, species t. h.).]

†276K. Eurytrema, pp. 94, 442.

concinnum Braun, 1901 [Dieroeoe-lium ¹]: Eurytrema; Distoma ¹.—Reported for: #437 Viverra (zibetha t. h.).

rebelle Railliet, 1925, for 1924, Bul. Soc. zool. France, v. 49 (8–10), Apr., 595: Eurytrema.—Hué ^t, Indochina.—Reported for: #479 Canis (familiaris t. h.).

†277. Dicrocoelium, pp. 94, 443.

†dcndriticum, pp. 95, 443: Dicrocoelium.—Reported for: #479 Canis (familiaris); #511 Mustela (Lutreola) species (mink).

†lanccatum^s, p. 95: Dicrococlium.— Reported for: #479 Canis (familiaris).

†278. SCHISTOSOMATOIDEA, pp. 95, 443. †279. SCHISTOSOMIDAE, pp. 95, 807.

†280. SCHISTOSOMINAE, pp. 96, 807.

†281. Schistosoma, pp. 96, 443, 807.

†haematobium, pp. 96, 443, 807: Schistosoma.—Reported for: #413 Fclis (catus). Continued in later bulletins.

†japonicum, pp. 97, 444: Schistosoma.—Reported for: #413 Felis (catus [dom.]); #479 Canis (familiaris).

—. Heterobilharzia Price, 1929, Proc. U. S. Nat. Mus., v. 75 (2789), Art. 18, 3, 14, tod. int. americana.— †280 schistosominae: Preacetabular portion of o short, subcylindrical; posterior portion with edges inrolled, forming a deep gynaccophoric canal. Suckers present. Cuticle covered with small tubercles. Ceca unite caudally near posterior end of body. numerous, 70 to 83 in number, arranged in two irregular rows in caudal third of body anterior to cecal union; cirrus pouch present containing the seminal vesicle. Genital pore at beginning of gynaecophoric canal left of median line. ♀ unknown.

*amcricana Price, 1929, Proc. U. S. Nat. Mus., v. 75 (2789), Art. 18, 14–15, figs. 33–34: Heterobilharzia^t.—Zoo, Washington, D. C.—Reported for: #413 Lynx (species t. h. "probably Lynx uinta").

—. Ornithobilharzia [p. 96] Odhner, 1912, Zool. Anz., v. 41 (1), Nov. 26, 61, tod. mt. intermedia.—†280 schistosominae: ♀ shorter than ♂. ♂ with well-developed gynaecophoric canal, formed by an infolding of lateral edges of body. Suckers present. Cuticle covered with spines. Digestive tract similar to that of †281 Schistosoma; ceca long, with tendency to form several anastomoses before finally uniting to form the common cecum. Testes numerous (60 or more), commencing slightly postacetabular, extending postequatorial; cirrus sac rudimentary or absent; seminal vesicle free in the parenchyma; prostate absent. Genital pore small, immediately postacetabular. Q elongate, slender, flattened; ovary elongate, loosely or tightly coiled, in cephalic 3rd of body; vitellaria extensive, occupying about two-thirds of body length; Laurer's canal present (at least in some species); uterus short, with but one egg at a time. Cf. †279i. Syn. †279k Macrobilharzia Trav., 1923, fide Price, 1929, 17.

turkcstanicum Skrjabin, 1913, Zeitschr. f. Infektkrankh. d. Haustiere, v. 13 (7), July 5, 457–468, pl. 15, figs. 1–8, pl. 16, fig. 8 [Schistosoma 1]: Ornithobilharzia.— Russian Turkestan t.—Reported for: #413 Felis (catus [dom.]). Continued in later bulletins; Bos (taurus t. h.).

†282. TREMATODA, p. 97. Trematodes of uncertain position. See Cornatrium, Macroorchis, Procerovum, Stellantchasmus, Stephanolecithus, Stephanopirumus.

—. Cornatrium Onji & Nishio, 1924, Chiba Ig. Sem. G. Z., v. 2, tod. fuscatum; 1925, Jap. J. Zool., v. 1

 $(3), 90. -< \dagger 282.$

fuscatum Onji & Nishio, 1924, Chiba Ig. Sem. G. Z., v. 2 [nv]; 1925, Jap. J. Zool., v. 1 (3), 90: Cornatrium t.—Japan t.—Reported for: #413 Felis (catus t. h.).

perpendiculum Onji & Nishio, 1924, Chiba Ig. Sem. G. Z., v. 2 [nv]; 1925, Jap. J. Zool., v. 1 (3), 90: Cornatrium.—Japant.—Reported for: #413 Felis (catus exp.); #479 Canis (familiaris exp.). Continued in later bulletins; Larus t. h. Vectors: Acanthogobius; Mugil.

—. Macroorchis Goto in Ando, 1919, Igakk. Zasshi, no. 147, tod. spinulosus [nv].—<†282.</p>

spinulosus Goto in Ando, 1919, Chuo Igakk. Zasshi, no. 147 [nv]; Ando, 1921, Nihon Biseibutsugak. Z., v. 15 (11) [nv]: Macroorchis t.— Japan t.—Reported for: #413 Felis (catus); #479 Canis (familiaris exp.). Continued in later bulletins. Vector Potamon (dehaani).

—. Procerovum Onji & Nishio, 1924, Chiba Ig. Sem. G. Z., v. 2, tod. varium [nv]; 1925, Jap. J. Zool., v. 1 (3), 90.—<†282.</p>

varium Onji & Nishio, 1924, Chiba Ig. Sem. G. Z., v. 2 [nv]; 1925, Jap. J. Zool., v. 1 (3), 90: Procerovum '.—Japan '.—Reported for: #413 Felis (catus exp.). —. Stellantchasmus Onji & Nishio, Chiba Ig. Sem. G. Z., v. 2, tod. falcatus [nv]; 1925, Jap. J. Zool., v. 1 (3), 90.—< †282.</p>

falcatus Onji & Nishio, 1924, Chiba Ig. Sem. G. Z., v. 2 [nv]; 1925, Jap. J. Zool., v. 1 (3), 90: Stellantchasmus^t.—Japan^t.—Reported for: #413 Felis (catus exp.). Continued in later bulletins; Amidori t. h. Vector Mugil.

Stephanolecithus Nakagawa, 1919,
 J. Parasitol., v. 6 (1), Sept., 39,
 tod. parvus.—<†282.

parvus Nakagawa, 1919, J. Parasitol., v. 6 (1), Sept., 39, based on Nakagawa, 1917, J. Exp. Med., v. 26 (3), Sept. 1, 305-306: Stephanole-cithus.—Formosa t.—Reported for: #479 Canis (familiaris). Continued in later bulletins. Vectors : Eriocheir (japonicus); Potamon (dehaanii, obtusipes, sinensis); Sesarma (dehaanii).

—. Stephanopirumus Onji & Nishio, 1924, Chiba Ig. Sem. G. Z., v. 2, tod. longus [nv]; 1925, Jap. J. Zool., v. 1 (3), 90.—<†282.</p>

longus Onji & Nishio, 1924, Chiba Ig. Sem. G. Z., v. 2 [nv]; 1925, Jap. J. Zool., v. 1 (3), 90: Stephanopirumus t. — Japant.—Reported for: #413 Felis (catus exp.). Continued in later bulletins. Vectors: Acanthogobius; Mugil; Pleuronectes.

†283. *CESTODA*, pp. 97-113, 444-450, 621-622, 807-813. For the most recent extensive revision, see Southwell, 1930, Fauna of British India, 2 vols.

[species Ratcliffe, 1930, Report Lab. & Mus. Compar. Path. Zool. Soc. Philadelphia, 59: "Cestodes".—
Reported for: #415 Acinonyx (jubatus ("cheetah"));#437 Viverra (species ("moon civet")); #473 Lycaon (pictus ("Cape hunting dog")).]

—. PROTEOCEPHALOIDEA Southwell, 1930, Faima Brit. India, v. 1, 39, 357, 367.—†283 CESTODA; EUCESTODA, fide Southwell, 1930, 39: Head unarmed or armed with

minute spines and with 4 sessile suckers devoid of areolae or accessory suckers. An apical organ is frequently present, and occasionally a distinct muscular rostellum. Vitellaria lateral, follicular, the follieles usually closely grouped about a central duct when in the medulla, but spread out over a relatively broad lateral area when situated in the cortex. Ovary bilobed and posterior; uterus with lateral diverticula and one or more median ventral uterine openings; vitellaria, testes, ovary, nterus, usually within inner longitudinal musele sheath, but in certain genera one or more of these organs may be situated in the cortex. See PROTEO-CEPHALIDAE.

—. PROTEOCEPHALIDAE LaRue, 1911, Zool. Anz., v. 38 (22/23), Nov., 473, 475.—With the characters of the superfamily. See Proteocephalus.

—. Proteocephalus Weinland, 1858, tod. ambiguus.—PROTEOCEPHALIDAE: Scolex without rostellum; all reproductive organs situated either in medullary region of parenchyma (where this is distinguishable from cortex) or in undivided parenchyma (when internal longitudinal muscle sheath is absent). Vitellaria lateral, follicular, the follicles closely grouped about a ventral conducting tubule.

Challed the conducting tubule.

punicus Cholodkowsky, 1908 [Taenia]: Proteocephalus; Ophiotaenia.—Tunis t.—Reported for: #479 Canis (familiaris t. h.); #427 Paradoxurus (hermaphroditus).

—. Tetrathyridium, p. 807. <†284a. Syn. Dithyridium.

bailleti Railliet, 1885a, elongatum h
1882, not 1842, renamed: Tetrathyridium; Dithyridium; Cysticercus 1;
Plerocercoides 4.—Germany 4.—
Syn. railleti m 1894.—Reported
for: #413 Felis (catus); #464
Herpestes (ichneumon); #479 Canis
(familiaris); #485 Vulpes (vulpes);
#511 Mustela (putorius).

elongatum d h s Blumenbach, 1882a [Cysticercus], not Leuckart, 1842: Tetrathyridium (Dithyridium); Dithyridium.—Germany t.—So. bailleti.—"Probably larval form of Mesocestoides lineatus", fide Ejsmont, 1928.—Reported for: #413 Felis (catus); #479 Canis (familiaris); #464 Herpestes (ichneumon); #485 Vulpes (species, vulpes).

[martis * Diesing, 1850a [Piesto-cystis °]: Dithyridium.—Europe t.—So. i elongatum h, fide Ward, 1895a, 342.—Reported for: #479 Canis (familiaris); #521 Martes (foina, martes t. h.).]

[species Schwartz, 1927, Sci., n. ser., v. 66, 17–18: Dithyridium. See under Mesocestoides.]

[species Skrjabin, 1924, Berl. Tierärzt. Wochenschr., v. 40 (20), p. (6): Dithyridium.—U. S. S. R.—Reported for: #413 Fclis (catus [dom.]).]

[taxi Diesing, 1850a [Piestocystis o]: Dithyridium.—Reported for: #479 Canis (familiaris); #528 Meles (meles meles s. taxus o t. h.).]

†285. PSEUDOPHYLLIDEA, p. 100. See LÜHEELLIDAE and †286 BOTH-RIOCEPHALOIDEA.

—. LÜHEELLIDAE Baer, 1924, Ann. Parasitol., v. 2 (3), July, 239, 240; 1926, 11th & 12th Rep. Dir. Vet. Educ. Res. Pretoria, 67, 69.— <†285 PSEUDOPHYLLIDEA: Size moderate, muscular system very well developed; genital porcs 3, ventro-median. Vagina and cirrus sac open into a common atrium; ovary ventral, in distal region of segment, formed by 2 fairly long lobes united by a narrow bridge; shell-gland well developed; receptaculum seminis present; uterus a winding tube of which the proximal portion is surrounded with welldeveloped uterine glands; uterine pore distinctly preformed; ova large, thick-shelled, operculated. Adult in mammals. See Lühcella.

— Lüheella Bacr, 1924, Ann. Parasitol., v. 2 (3), July, 239, tod. mt. pretoricnsis; 1926, 11th & 12th Rep., Dir. Vet. Educ. Res. Pretoria, 67, 69.—Lüheellidae: Excretory system well developed, contained entirely in the medullary parenchyma, and consisting of 10 longitudinal anastomosed vessels; longitudinal nerves much displaced towards centre of proglottid; testes numerous, forming 2 lateral fields. Adult in Canidae.

pretoriensis Baer, 1924, Ann. Parasitol., v. 2 (3), July, 239–240; 1926, 11th & 12th Rep. Dir. Vet. Educ. Res. Pretoria, 67–68, figs. 1–5: Lüheella.—S. Africa t.—Reported for: #480 Otocyon (megalotis t. h.).

†286. BOTHRIOCEPHALOIDEA, p. 100. See †287 DIPHYLLOBOTHRIIDAE and BOTHRIOCEPHALIDAE.

†287. DIPHYLLOBOTHRIIDAE, pp. 101, 621.

†289. LIGULINAE, p. 101. See †290 Ligula and Schistocephalus.

†290. Ligula, p. 101.

intestinalis Linn., 1758a [Fasciola]: Ligula.—Reported for: #413 Felis (catus [dom.]). Continued in later bulletins; Pisces t. h.

species Sakamoto & Tsuyuki, 1923, Acta Dermat., v. 2, 79–90; 1925, Jap. J. Zool., v. 1 (3), 92 [nv]: Ligula.—Reported for: #413 Felis (catus); #479 Canis (familiaris). Continued in later bulletins.

-. Schistocephalus Creplin, 1829b, mt. dimorphus so. solidus.—†289 LIGULINAE: Bothria and external segmentation developed in the larva. Tip of scolex retractile. Segmentation complete and corresponding to internal structure of the animal. Longitudinal and transverse muscles arranged in several alternating layers (3 transverse layers enclosing 2 longitudin-Larva in fishes; adult al layers). in birds.

gasterostei Fabricius, 1780a [Taenia 1]: Schistocephalus.—Greenland t.— So. solidus.—Reported for: #413 Felis (catus); #479 Canis (familiaris). Continued in later bulletins; Gasterosteus (aculeatus t. h.).

nodosus ⁸ Bloch, 1782a [Taenia ¹] lanceolata ¹]: Schistocephalus.—So. solidus.—Reported for: #499 Lutra (lutra). Continued in later bulletins; Mcrgus t. h.

†292. DIPHYLLOBOTHRIINAE, p. 101. See †293 Sparganum, †295 Diphyllobothrium, and Bothridium.

†293. Sparganum, pp. 102, 444, 621.

ellipticum Molin, 1858d: Sparganum.
—Paduat.—Reported for: #511
Mustela (putorius); #521 Martes
(foina).

philippinensis Tubangui, 1924, Philip. J. Sei., v. 24 (6), June, 752–753, fig. 2: Sparganum.—Los Baños thilippine Ids.—Reported for: #427 Paradoxurus (philippinensis t. h.).

species [p. 445] Ijima & Murata, 1888, 160: Sparganum. — Japan. — Reported for: #511 Mustela; (itatsi).

species Meggitt, 1924, Parasitol., v. 16 (1), Jan., 52-53, figs. 2A-C: Sparganum.—Burma.—Reported for: #464 Herpestes (birmanicus s. albopunctatus).

species Shipley, 1902, Arch. Parasitol., v. 6, 608-611 [LIGULINAE]; Joyeux & Mathias, 1926, Ann. Parasitol., v. 4 (4), Oct. 1, 333: Sparganum.—Sudan; Belgian Congo.—Reported for: #413 Felis (serval).

†295. Diphyllobothrium, pp. 102, 445.

*americanum * Hall & Wigdor, 1918,
J. Amer. Vet. Med. Assoc., v. 53,
n. s. v. 6 (3), 355-358, fig. 1: Diphyllob.—Detroit , Michigan.—
So. latum, fide Baer, 1926, 72.—
Reported for: #479 Canis (familiaris t. h.).

[canis * Ercolani & Grassi, in Erc., 1859a: Bothrioc.¹—Italy ¹.—So. ? latum.—Reported for: #479 Canis (familiaris t. h.).]

†cordatum, p. 102 [Bothrioc.]: Diphyllob. (Diphyllob.); Dibothrioc.*—Greenland t.—Reported for: #479 Canis (familiaris). Continued in later bulletins.

decipiens o Dies., 1850a [felis Creplin [tpd.] and maculatum Leuckart, [Dibothrium 1]: renamed phyllob.; Diphyllob. (Spirometrat); Bothrioc.1—Greifs-Dibothrioc. *; wald .—So. felis.—Reported for: #413 Felis (catus [dom.] t.h., concolor, couguar so. concolor couguar, jaguarondi, leopardus so. pardus lcopardus, lupus, macroura, mellivora, mitis. nebulosa, onca, pardalis, pardus, pardus leopardus, pardus villosa, scrval, silvestris, (wild cat), tigrina, tigris, wicdii); Canis (familiaris, lupus); #479 #538 Mellivora (capensis s. ratcl). Continued in later bulletins. Vectors, exp.: Cyclops (affinis, albidus, bicuspidatus, magnus, ? oithonoidcs, phaleratus, serrulatus, vicinus). Peiping, China.

[dubius * Krabbe, 1865e: Bothrioc. Leeland *.—So. fuscum.—Reported for: #479 Canis (familiaris t. h.).]

erinacei, p. 807: Diphyllob. (Spirometra).—Reported for: #413 Felis (catus); #479 Canis (familiaris).

felis Creplin, 1825a [Bothrioc.¹]: Diphyllob.; Dibothrioc.^s—Reported for: #413 Felis (catus [dom.] t. h., nebulosa, pardus, silvestris, tigris).

[felis-pardi s Rud., 1810a, 193: Taenia l.—Paris Mus.—So. sulcatum.— Reported for: #413 Felis (pardus t. h.).]

folium Diesing, 1850a [Dibothrium 1]:
Diphyllob.; Bothrioc. 1—Sennar t,
Sudan.—Reported for: #462 Ichneumia (albicauda s. albicaudatus,
leucurus t. h.).

fuscum Krabbe, 1865c [Bothrioc.]:
Diphyllob.; Diphyllob. (Diphyllob.);
Dibothrioc. — Iceland t.— Reported
for: #479 Canis (familiaris t. h.);
#486 Alopex (lagopus).

gracile Baer, 1927, Abh. Senckenberg. Nat. Ges. Frankfurt, v. 40, 379-380, figs. 3-4: Diphyllob.—Brazil ¹.—Reported for: #413 Felis (macroura t. h., wiedii).

thoughtoni, p. 445: Diphyllob. (Spirometra).—Reported for: #413 Felis (catus); #479 Canis (familiaris).

Hanceolatum, p. 808: Sparganum.— Larva of ranarum, fide Vialli, 1929, 90-94.—Reported for: #479 Canis (familiaris exp.). Continued in later bulletins.]

†*latum, pp. 102, 445: Diphyllob.; Dibothrioc. *; Bothryocephalus c 1.— Reported for: #413 Felis (catus, coneolor, hernandesii, leo, macroura, mellivora, mitis, onca, pardus, tigrina, tigris); #462 Iehneumia (albieaudata so. albicauda); #479 Canis (azarae, familiaris, species (chien loup)); #485 Vulpes (species, vulpes s. alopex); #486 Alopex (lagopus); #488 Urocyon (einereoargenteus); #538 Mellivora (ratel so. capensis); #561 Procyon (lotor); #575 Thalarctos (maritimus); #576 Ursus (americanus exp., aretos). Continued in later bulletins. hosts, add: Diaptomus (vulgaris, Europe). 2d hosts, add: Abramis (brama); Anguilla (anguilla); Cottus (gobio); Lota (lota); Lucioperca (lucioperea); Pygostcus (pungitius).

longicolle & Parodi & Widakowich, 1917, Prensa Med. Argentina, Buenos Aires, Año 4 (11), 140 [Bothryoc. 1]: Diphyllob.—Provincia de Corrientes ^t, Argentina.—So. deeipiens, fide Wolffhügel & Vogelsang, 1926.—Reported for: #413 Felis (jaguarondi s. yaguarandi t. h.

maeulatum * Leuckart, 1848c [Bothrioc.1]: Diphyllob.; Dibothrioc.8— So. felis.—Reported for: Felis (eatus, leopardus so. pardus leopardus, pardus t. h.);

Canis (lupus).

†mansoni, pp. 102, 445: Diphyllob.; Diphyllob. (Spirometra); Dibothrioc. Sparganum; Dibothrium!.— Reported for: #413 Felis (catus [dom.], pardus orientalis, tigris korcensis); #437 Viverra (zibetha); #479 Canis (aureus, familiaris, lupus); #479 Nyctereutes (koreensis); #485 Vulpes (vulpes); #521 Charronia * (flavigula koreana); #523 Gulo (gulo s. sibiricus). Continued in later bulletins.

okumurai Faust, Campbell & Kellogg, 1929, Amer. J. Hyg., v. 9 (3), 574-576, figs. 7-8: Diphyllob.

(Spirometra).—Tokyo t, Japan.— Reported for: #479 Canis (familiaris t. h., exp.). Continued in later bulletins. Sparganum stage in either frog or snake.

[pancerii (Polonio) of Baer & Joyeux, 1927, Actes Soc. helvét. nat., 198-199: Sparganum.—So. ranarum.—Adult reported #413 Felis (catus [dom.] exp.); #479 Canis (familiaris exp.). Continued in later bulletins. Sparganum stage in frog and Tropidonotus (natrix).]

[pardi o Rud., 1810a, 198, for felispardi: Taenia 1.—Reported for: #413 Fclis (pardus).]

raillieti * Ratz, 1913, Centralbl. f. Bakt., Orig., v. 67 (7), Jan. 23, 525, 527, figs. 1-3 [Sparganum]: Diphyllob.—So. ? mansoni, fide Brumpt, 1922a, 493.—Reported for: #479 Canis (familiaris). Continued in later bulletins; Sus (scrofa t. h.).

ranarum Gastaldi, 1854 [Ligula 1]: Diphyllob.; Diphyllob. (Spirometra); Dibothrioc. -- Reported for: #413 Felis (catus); #479 Canis #511 (familiaris, procyonoides); Mustela (furo (ferret)). Continued in later bulletins; larva in Rana (esculenta t. h.). 1st host: Cyclops fuscus.

reptans, pp. 445, 621 [Ligula 1]: Diphyllob.; Diphyllob. (Spirometra); Sparganum.—Brazil t.—Reported for: #413 Felis (bengalensis, mitis, nebulosa, pardalis, pardus, tigrina); #479 Canis (azarae, familiaris); Pteronura (brasiliensis); #499 Lutra (solitaria); #525 Tayra (barbara s. barbatus, barbara senex); #563 Nasua (nariea, socialis). Continued in later bulletins.

reptans (Diesing) of Meggitt, 1924, Ann. Trop. Med. Parasitol., v. 18 (2), Aug. 2, 195-199, pl. 9, figs. 1-2: Diphyllob.—So. ranarum, fide Joyeux & Baer, 1927, 933, 935.—Reported for: #479 Canis (familiaris exp.). Continued in bulletins. Sparganum Tropidonotus (species, Burma).

- [reticulatus * Krabbe, 1865e: Both-rioc.!—Iceland !.—So. fuscum.— Reported for: #479 Canis (fami-liaris t, h.).]
- serratum * Diesing, 1850a [Dibothrium 1]: Diphyllob.; Dibothrioc.*; Bothrioc. Brazil 1.—So. decipiens, fide Wolffhügel & Vogelsang, 1926.—Reported for: #479 Canis (aureus, azarae t. h., familiaris, familiaris pomeranus).
- simile Krabbe, 1865e [Bothrioc.]: Diphyllob.—Greenland —Reported for: #486 Alopex (lagopus t. h.).
- species Joyeux & Mathias, 1926, Ann. Parasitol., v. 4 (4), Oct. 1, 334: Diphyllobothrium.—Dongou (Ouellé).—Reported for: #413 Felis (pardus).
- species Mazza & Vogelsang, 1928, Bol. Inst. Clin. quirúrg. Univ. Buenos Aires, Año 4, 646: *Diphyllob*.—Tucumán, Argentina.—Reported for: #479 *Canis* (familiaris).
- species Moghe, 1926 [nv]: Diphyllob.; Dibothrioc.*—Reported for: #413 Felis (bengalensis).
- species Southwell, 1922, Ann. Trop. Med. Parasitol., v. 16 (2), July 20, 133 [Bothriocephalus]: Diphyllob.—Reported for: #413 Felis (melas so. pardus melas).
- species Southwell, 1922, Ann. Trop. Med. Parasitol., v. 16 (2), July 20, 133 [Bothriocephalus]: Diphyllob.—Calcutta Zoo.—Reported for: #427 Paradoxurus (grayi).
- species Tubangui, 1925, Philip. J. Sci., v. 28 (1), Sept., 17 [not described]: Diphyllob.—Manila^t, Philippine Ids.—Reported for: #413 Felis (catus); #479 Canis (familiaris).
- species Vevers, 1920, Proc. Zool. Soc. London, pt. 3, Sept., 408 [Diboth-rioe.*]: Diphytlob.—London Zoo, from Argentina.—Reported for: #550 Conepatus (proteus).
- [species Wharton, 1917, J. Parasitol., v. 4 (2), Dec., 82: Dibothrioc.*— Philippine Ids.—Reported for: #413 Felis (catus); #479 Canis (familiaris).]

- species Wigdor, 1921, J. Parasitol., v. 7 (4), June, 186: Diphyllob.— Reported for: #479 Canis (familiaris).
- sulcatum* Molin, 1858d [Dibothrium]: Diphyllob.; Dibothrioc.*; Bothrioc.!—Padna t, Italy.—So. decipiens.—Reported for: #413 Felis (couguar so. concolor couguar, pardus t. h.).
- tangalongi MaeCallum, 1921, Zoopathologica, v. 1 (6), Aug., 217, fig. 110 [Dibothrium¹]: *Diphyllob.*— Borneo ^t.—Reported for: #437 *Viverra* (species, tangalunga t. h.).
- theileri Baer, 1924, Ann. Parasitol., v. 2 (3), July, 240–241; 1926, 11th & 12th Rep. Dir. Vet. Educ. Res. Pretoria, 69–71, figs. 6–8: Diphyllob.—Pretoria ^t, S. Africa.—Reported for: #413 Felis (caffra so. ocreata cafra, serval).
- Bothridium Blainville, 1824a, tsd. pithonis.—†292 diphyllobothrii-NAE: Scolex with 2 tubular bothridia which open anteriorly and posteriorly by pores provided with sphineter muscles. Vitelline glands between inner and outer longitudinal muscles, sometimes intermingling with the latter; uterus consists of a uterine duct and a uterine sac, which latter is composed of 2 large cavities connected by a narrow duct. Syn. Solenophorus o Creplin, 1839a, type pithonis [not Solenophorus h Muls, 1840, coleopteron].
 - megalocephalum o Creplin, 1839a [Solenophorus o]: Bothridium.—So. pithonis. Syn. megacephalus o 1850.—Reported for: #413 Felis (tigrina, tigris).
 - pithonis Blainville, 1828a: Bothridium '; Solenophorus '.—Reported for: #413 Felis (tigris). Continued in later bulletins; Python t. h.
- —. Bothriocephalidae Cobbold, 1864b.—†286 Bothriocephaloidea: Cirrus and vaginal pore and uterine pore on opposite surfaces; the former rarely marginal, almost always surficial, dorsal;

- uterine pore ventral, more proximal than other genital pores. Seolex usually with 2 bothria, sometimes armed; a pseudoscolex may be present; segmentation complete, but sometimes obscured. Receptaculum seminis, when present, a blind sae situated at inner end of vagina; uterus never a rosette, generally a large sac with a small uterine duet. Eggs thinshelled, usually not operculated. Syn. PTYCHOBOTHRIDAE Luehe, 1902n. Cf. †285F, p. 100. See Bothriocephalus.
- -. Bothrioeephalus Rud., 1808a, tsd. punctatus o so. scorpii.—< BOTH-RIOCEPHALIDAE: Scolex elongate, the 2 bothria feebly developed. External segmentation indistinct, but marked by a toothlike notching of lateral border. Uterine pore medio-ventral; ♂ and ♀ pores medio-dorsal. Testes and vitelline glands continuous throughout strobila. Vitellaria in cortex; receptaculum seminis absent; first part of uterus a sinuous duet (uterine duet) opening into a large spherical sae (uterine sae or uterus s. str.). Syn. Dibothrium o Diesing, 1850a, type punctatum.

species Braun, 1893f, 390: Bothrioc. —
Apparently Königsberg.—Reported for: #413 Fclis (catus [dom.]).

- species Foot, 1865, Proc. Nat. Hist. Soc. Dublin, v. 4, 201–206: Both-rioc.\(^1—Dublin Zoo.—Reported for: #575 Thalarctos (maritimus).
- species Krabbe, 1865c: Bothrioc. —
 Denmark.—Reported for: #479
 Canis (familiaris).
- [species Stiles & Hassall, 1894e, 332: Dibothrium •.—Reported for: #523 Gulo (luscus).]
- ursi Landois, 1877a, 50: Bothrioc.\(\subseteq\) Zoo, Germany t.—Reported for: #576 Ursus (arctos t. h.).
- †299. TAENIOIDEA, pp. 104, 445, 621, 808. See Tacnia 1, †303 DAVAINEIDAE, †306 DIPYLIDIIDAE, †306H DILE-PIDIDAE, †310 HYMENOLEPIDIDAE, †317 ANOPLOCEPHALIDAE, †320 TAENIIDAE, MESOCESTOIDIDAE, TETRABOTHRIIDAE.

- —. Taenia 1, pp. 445, 621, 808. < †299. Cf. Alysclminthus 1.

 - crassipora Rud., 1819a: T.1—Brazil. —Reported for: #552 Mephitis (cinche); #563 Nasua (narica t. h., socialis).
 - martis Zeder, 1803a, 372, mustelae 1790 renamed [Halysis]: T. scrrata.—Europe t.—Reported for: #521 Martes (martes t. b.).
 - mustelae Gmelin, 1790a: T.1; Halysis!.—Europe!.—Reported for: #511
 Mustela (nivalis, putorius, vulgaris * t. h.); #521 Martes (martes).
 - mustelae-vulgaris Rud., 1810a: T.\
 Europe •.—So. mustelac 1790.—
 Reported for: #511 Mustela (nivalis, vulgaris t. h.).
 - opuntioides Rud., 1819a: T. —Berlin^t, Germany.—Reported for: #479 Canis (lupus t. h.).
 - paradoxuri Smith, Fox & White, 1908, Univ. Penn. Med. Bul., v. 20 (12), Feb., 283: T.—Philadelphia Zoo, from India '.—Reported for: #427 Paradoxurus (grayi t. h.).
 - pectinata i s of Zeder, 1800a: T.—So. ? Andrya rhopalocephala.—Reported for: #413 Fclis (catus [dom.]). Continued in later bulletins.
 - putorii h o Zeder, 1803a, mustelae 1790 renamed [Halysis]: T.— Europe t.—Reported for: #511 Mustela (putorius).
 - retracta Linstow, 1903u: T.—Coll. St. Petersburg.—Reported for: #485 Vulpes (ferrilatus, ferrilatus eckloni s. cckloni t. h.).
 - secunda h Olsson, 1893a, not Kuech., 1855a: T.—Sweden t.—Reported for: #528 Mclcs (mclcs mclcs s. taxus o t. h.).
 - species Feilden in Nares, 1878, Narr. Voyage Polar Sea, 1875-76, v. 2, 193, 194: T.—Reported for: #479 Canis (lupus); #511 Mustcla (crminca).
 - species Galli-Valerio, 1929, Centralbl. f. Bakt., Orig., v. 112 (1-2), May, 58: T.\—Reported for: #485 Vulpes (vulgaris o so. vulpes).

- species Henry & Leblois, 1923, Rec. Méd. vét. Alfort, v. 99 (3), Feb., 89: T.—Reported for: #479 Canis (familiaris).
- species Léon, (1911), 1924, Contrib. à l'Étude de Parasites Animaux de Roumanie (1898–1924), Bucarest, 94: T.—Reported for: #576 Ursus (arctos).
- species Léon, (1911), 1924, Contrib. à l'Étude de Parasites Animaux de Roumanie, Bucarest, (1898–1924) 94: T.—Reported for: #528 Meles (mclcs mclcs s. taxus °).
- species Meggitt, 1928, Parasitol., v. 20 (3), Oct., 320: T.—Haifa, Palestine.—Reported for: #479 Canis (familiaris).
- species Moniez, 1880a, 47: T.—Reported for: #413 Felis (species (panther)).
- species Parona, 1896k, 3: T. —Reported for: #413 Fclis (lco).
- species Parona, 1900a, 5: T._Eritrea._? So. †325 T.\r species Setti, 1897._Reported for: #437 Viverra (species).
- species Southwell, 1922, Ann. Trop. Med. Parasitol., v. 16 (2), July, 128: T._Lahore, India._Reported for: #479 Canis (familiaris).
- *species Stiles & Hassall, 1894e, 334: T.—Colorado.—Reported for: #544 Taxidea (americana so. taxus).
- *species Stiles & Hassall, 1894e, 334: T.—Colorado.—Reported for: #552 Mephitis (mcphitica so. mephitis).
- tenuicollis ho Rud., 1819a, putorii h 1803 and mustelac-vulgaris renamed [not tenuicollis Rud., 1810a]: T.— Mus. Vienna.—Reported for: #511 Mustela (nivalis, putorius, vulgaris b).
- vulpina Schrank, 1788a, eontains †325 crassiceps and litterata: T. — Reported for: #479 Canis (lupus); #485 Vulpes (vulpes t. h.).
- †303. DAVAINEIDAE, p. 104.
- †304. DAVAINEINAE, p. 104.
- †305b. Cotugnia, p. 105.
 - pluriuncinata Baer, 1925, Bul. Soc. Sci. nat. Maroc, v. 5 (3), April 30, 54–56, pl. 2, figs. 1–4: Cotugnia.— Dahomey ^t.—Reported for: #458 Atilax (galera t. h.).

- †305k. Raillietina (Raillietina), p. 106. africana Baer, 1925, Bul. Soc. Sci. nat. Maroe, v. 5 (3), April 30, 56–57, pl. 3, figs. 5–8 [Raillietina (Ransomia °)]: Rail. (Rail.).—Dahomey ^t, W. Africa.—Reported for: #458 Atilax (galera t. h.).
 - pintncri Klaptocz, 1906 [Davainea]: Rail. (Rail.).—W. Africa ^t.—Reported for: #458 Atilex (galera). Continued in later bulletins; Numida (ptilorhyncha t. li.).
- †306. БІРУІЛБІГВАЕ, рр. 106, 808.
- †307. DIPYLIDIINAE, pp. 106, 808.
- †308. Dipylidium, pp. 106, 809.
 - [aegyptica Meggitt, 1927, Parasitol., v. 19 (4), Dec., 432, pl. 30, fig. 26: Joycuxia.—Reported for: #413 Felis (sylvatica t. ll.).]
 - buencaminoi Tubangui, 1925, Philip. J. Sci., v. 28 (1), Sept., 18–19, pl. 1, figs. 2–4: Dipylidium.—Manila ^t, Philippine Islands.—Reported for: #479 Canis (familiaris t. h.).
 - †caninum, p. 107 [Taenia 1]: Dipylidium.—Europe 1.—Reported for: #413 Felis (catus [dom.], catus caeruleus s. coeruleus, libyca, maniculata, silvestris, species, viverrina); #427 Paradoxurus (grayi, hermaphroditus); #466 Proteles (cristatus); #469 Hyacna (striata); #479 Canis (aureus, aurcus dalmaticus so. aureus dalmatinus, dingo, familiaris t. ll., mesomelas, species (Asiatic chacal)); #480 Otocyon (megalotis); #483 Fennecus (zerda); #485 Vulpes (vulpes). Continued in later bulletins.
 - canis o Galli-Valerio, 1898b: Dipylidium; Dipylidium caninum.—So. caninum.—Italy t.—Reported for: #479 Canis (familiaris t. h.).
 - carracidoi Lopez-Neyra, 1928, Bul. Soc. Path. exot., v. 21, 249; 1929, Mem. Real Acad. Cienc., v. 32, 54-56, pl. 10, figs. 1-6: Dipylidium.—Spain t.—Reported for: #413 Felis (catus [dom.] t. h.).
 - [cateniformis* Goeze, 1782a: Taenia!.—Germany t.—So. caninum.— Reported for: #479 Canis (familiaris t. h., species (wolf)); #485 Vulpes (melanogaster so. vulpes melanogaster, species).]

- cati Neumann, 1896f, 177: Dipylidium caninum.—Reported for: #413 Felis (catus [dom.]).
- catus Gulati, 1929, Agric. Res. Inst., Bul. 190, 1-4, 5 figs.: Dipylidium.— Almora ^t, United Prov., India.— Reported for: #413 Felis (species (Siamese cat t. h.)).
- chyzeri Ratz, 1897d: Dipylidium; Joycuxia t.—Syn. chyseri 1920.— Reported for: #413 Felis (catus [dom.] t. h., serval). Vectors: Cerastcs (cornutus); Tarentola (mauritanica, Spain); Tropidonotus (viperinus); Zamenis (hippocrepis).
- *compactum Millzner, 1926, Univ. Calif. Public. Zool., v. 28, 327–328, pl. 36, figs. 16–20: Dipylidium.—California t.—So. caninum.—Reported for: #413 Felis (catus [dom.] t. h.).
- *crassum Millzner, 1926, Univ. Calif. Public. Zool., v. 28, 330, pl. 39, figs. 31–35: Dipylidium.—California t.—So. caninum.—Reported for: #479 Canis (familiaris t. h.).
- cucumerinum s Bloch, 1782a [Taenia 1]:

 Dipylidium; Alyselminthus1.—

 Europe t.—So. caninum.—Reported for: #413 Felis (catus); #479

 Canis (aureus, aureus dalmaticus so. aureus dalmatinus, familiaris t.h.).
- [cuneiceps⁸ Zeder, 1800a [Alyselminthus¹]: Taenia¹; Halysis¹.—Germany ^t.—So. caninum.—Reported for: #413 Felis (catus, catus cacruleus s. coeruleus t. h., silvestris); #479 Canis (coeruleus).]
- *diffusum Millzner, 1926, Univ. Calif. Public. Zool., v. 28, 328–329, pl. 37, figs. 21–25: Dipylidium.—California t.—So. caninum.—Reported for: #413 Felis (catus [dom.] t. h.).
- dongolense Beddard, 1913, Proc. Zool.
 Soc. London, pt. 3, Sept., 549-559,
 figs. 85-87, 89: Dipylidium; Joyeuxia.—London Zoo, from Africa.—
 Reported for: #433 Genetta (dongolana t. li.).
- echinorhynchoides ^e Sonsino, 1889b [Taenia ¹ (Dipylidium) echinorhyncoides]: Dipylidium; Joyeuxia.—

- Nubia t.—Reported for: #413 Felis (catus [dom.]); #479 Canis (rostratus, species (chacal)); #483 Fennecus (zerda s. cerdo t. h.); #485 Vulpes (vulpes s. alopex, vulpes niloticus). Continued in later bulletins. Larva (Cysticercus rostratus) in Zamenis (viridiflavus).
- [elliptica ° Goeze, 1782a, caninum 1758a renamed: Taenia ¹; Alyselminthus ¹; Halysis ¹; Cystic.¹ taeniae.—Syn. ellyptica 1786.—Reported for: #413 Felis (catus [dom.], maniculata, silvestris); #479 Canis (familiaris).]
- [fabulosum Meggitt, 1927, Parasitol., v. 19 (4), Dec., 430: Diplopylidium.—Gizeh ^t, Egypt.—Reported for: #413 Felis (catus t. h.).]
- felina s Goeze, 1782a, 312, refers to caninum Linn. in cats: [Dipylidium;] Taenia 1.—Germany t.—Reported for: #413 Felis (catus [dom.] t. h.).
- [felis * Gmelin, 1790a: Taenia * cateniformis.—Europe *.—So. caninum of cats.—Reported for: #413 Fclis (catus [dom.] t. h.).]
- felis h s Werner of Rud., 1810a: Dipylidium caninum; Taenia l canina.— So. elliptica, so. caninum. reported for: #413 Felis (catus [dom.] t. h.).
- [fortunatum Meggitt, 1927, Parasitol., v. 19 (4), Dec., 430: Diplopylidium.—Gizch^t, Egypt.—Reported for: #413 Fclis (catus t. h.).]
- fuhrmanni Baer, 1924, Ann. Parasitol., 245–246; 1926, 11th & 12th Rep. Dir. Vet. Educ. Res. Pretoria, 98, 100–101, figs. 28–29: Dipylidium; Joyeuxia.—S. Africa t.—Reported for: #413 Felis (caffra so. ocreata cafra, serval).
- [genettae Beddard, 1913, Proc. Zool. Soc. London, (3), Sept., 559–569, figs. 90–94: Diplopylidium ¹.—London Zoo, from Africa ¹.—Reported for: #433 Genetta (dongolana t. h.).]
- genettae Gervais, 1847a [Halysis 1]:
 Dipylidium; Tacnia 1.—Montpellier 1, France.—Reported for: #433
 Genetta (genetta t. h., species).

gervaisi Setti, 1895c: Dipylidium; Joycuxia: Taeuia ¹ (Dipylidium).— Eritrea ¹.—Reported for: #413 Felis (viverrina); #427 Paradoxurus (hermaphroditus); #433 Genetta (abyssinica, genetta, tigrina).

*gracile Millzner, 1926, Univ. Calif. Public. Zool., v. 28, 326–327, figs. 11–15: Dipylidium.— California t.—Syn. graciele m 1929. So. caninum.—Reported for: #413 Fclis (catus [dom.] t. h.); #479 Canis (familiaris).

halli Tubangui, 1925, Philip. J. Sci.,
v. 28 (1), Sept., 19-20, pl. 1, figs.
5-6, pl. 2, fig. 1: Dipylidium.—
Manila ¹, Phillippine Islands.—
Reported for: #413 Felis (catus t. h.).

*longulum * Millzner, 1926, Univ. Calif. Public. Zool., v. 28, 329–330, pl. 38, figs. 26–30: Dipylidium.—California t.—So. caninum.—Reported for: #413 Fclis (catus [dom.] t. h.).

[monoophoroides Lopez-Neyra, 1928, Bul. Soc. Path. exot., v. 21, 253; 1929, Mem. Real Acad. Cienc. Madrid, v. 32 (1), 87–89, pl. 23, figs. 1–8: Diplopylidium.—Spain t.—Reported for: #413 Felis (catus [dom.] t. h.).—Vector Tarentola (mauritanica, Spain).]

monoophorum Luche, 1898g: Dipylidium; Diplopylidium.—Tunis L.—
Reported for: #433 Genetta (afra, genetta); #435 Cirettictis (ciretta (Zibeth cat t. h.)).

[nölleri Skrjabin, 1924, Berliner Tierärz. Wochenselu., v. 40 (32), Aug. 8, 420–421, figs. 1–3 [Progynopylidium.—Russian Turkestan ¹.—Reported for: #413 Felis (catus [dom.] t. lt.).]

örleyi ⁸ Ratz, 1900o: Dipylidium.— Budapest ⁴, Hungary.—So. caninum, fide Southwell, 1930, 176.— Reported for: #413 Felis (catus [dom.]t.h.);#479 Canis (familiaris, species (pariah dog)).

pasqualei Diamare, 1893b: Dipylidium; Joyenxia; Taenia (Dipylidium).— Egypt (.—Reported for: #413 Felis (catus [dom.]); #479 Canis (familiaris, lupus).

[pasqualeiformis Lopez-Neyra, 1928, Bul. Soc. Path. exot., v. 21 (3), March 14, 251 252; 1929, Mem. Real Acad. Cienc., v. 32, 70-71, pl. 15, figs. 1, 6: Joycuxia.—Granada ¹, Spain.—Reported for: #413 Felis (catus [dom.]); #479 Canis (familiaris). Continued in later bulletins. Vector Tarcutola (mauritanica, Spain).]

porimamillanum Lopez-Neyra, 1928, Bul. Soc. Path. exot., v. 21 (3), March 14, 247–249, figs. 1, 4; 1929, Mem. Real Aead. Cienc., v. 32, 51–54, pl. 9, figs. 1–5: Dipylidium.—Granada⁴, Spain.—Syn. porimanillanum ^m 1929.—Reported for: #413 Fclis (catus [dom.]); #479 Canis (familiaris). Continued in later bulletins. Vector Tarcntola (mauritanica, Spain).

[prismatica * Braun in Rud., 1810a: Taenia 1.—So. caninum.—Reported for: #479 Canis (aquaticus, species t. h.).]

quinquecoronatum Lopez-Neyra & Muñoz, 1922, for Dec., 1921, Bol. R. Soc. esp. Hist. nat., Madrid, v. 21 (10), Jan. 28, 421-426, pl. 26, figs. 1a, 3a, 5a: Dipylidium; Diplopylidium.—Granada , Spain.—So. ? caninum.—Reported for: #413 Fclis (catus [dom.] t. h.). Continued in later bulletins. Vectors: Lacerta (muralis, Spain); Tarcntola (mauritanica, Spain).

rossicum, p. 809: Dipylidium; Joycuxia.—Russia ·.—Reported for: #413 Felis (catus [dom.]); #479 Canis (familiaris).

sexcoronatum Ratz, 1900o: Dipylidium.—Budapest ^t, Hungary.—Reported for: #413 Fclis (catus); #479 Canis (familiaris t. h., species (Pariah dog)).

species Gaiger, 1915, J. Comp. Path. Therap., v. 28, March, 69: *Dipylidium.*—India.—Reported for: #479 *Canis* (familiaris).

species Henry & Leblois, 1923, Rec. Méd. vét. Alfort, v. 99 (3), Feb., 89: Dipylidium.—Reported for: #479 Canis (familiaris).

species Joyeux, 1920, But. biol. France & Belgique, Suppl., 5:

- Dipylidium i.—Upper French Guinea.—Reported for: #413 Felis (pardus).
- species Kofend, 1921, Denkschr. Akad. Wiss. Wien, v. 98, 9-10: Dipylidium; Joyeuxia.—Senaar ^t, Sudan.—Reported for: #413 Felis (capensis phillipsi).
- species Meggitt, 1927, Parasitol., v. 19 (4), Dec., 432: Dipylidium.—Reported for: #413 Felis (species (wild cat)).
- *species Shaw, 1928, Kansas Univ. Sei. Bul., v. 18, 495: *Dipylidium.*— Kansas.—Reported for: #479 *Canis* (familiaris).
- trinchesei e Rail., 1893a, for trinchesii d Diamare, 1892a: Dipylidium; Diplopylidium; Taenia dium; Diplopylidium; Taenia dium; Litaly diamondo di diversione di later bulletins. Vector Tarentola (mauritanica, Spain).
- triseriale Luche, 1898g: Dipylidium; Diplopylidium.—Tunis t.—Reported for: #433 Genetta (afra, genetta i); #435 Civettietis (civetta t. h.); #437 Viverra (zibetha). Vector Chlorophis (irregularis, French Guinea).
- walkeri * Sondhi, 1923, Parasitol., v. 15 (1), March, 61–62, fig. 1, pl. 2, figs. 4–5: Dipylidium.—Punjab *, India.—So. eaninum, fide Southwell, 1930, 176.—Reported for: #479 Canis (familiaris, species (pariah dog t. h.)).
- zschokkei Hungerbühler, 1910, Jena Denkschr. med. Ges., v. 16, 516–517, pl. 19, figs. 18–20: Dipylidium; Diplopylidium.—Sekuma ^t, S. Africa.—Reported for: #450 Cynictis (penicillata t. h., species).
- †306*H*. DILEPIDIDAE, pp. 106, 445, 808. †306*I*. DILEPIDINAE, pp. 106, 445, 808. —. Cyclorchida.
 - crassivesicula Vevers, 1923, Proc. Zool. Soc. London, pt. 4, Feb., 924–926, figs. 11–12: Cyclorchida.—Malay States t.—Reported for: #427 Paradoxurus (hermaphroditus t. h.).

- —. Pentorehis Meggitt, 1927, Parasitol., v. 19 (2), 146–147, tod. mt. arkteios.—†306I DILEPIDINAE: Rostellum unarmed (?). Genital pores unilateral. Testes few, along posterior margin of proglottid, some external to excretory vessels; external vesicula seminalis absent. Receptaeulum seminis large; uterus saelike. Adults in mammals.
 - arkteios Meggitt, 1927, Parasitol., v. 19 (2), Aug., 146–147, pl. 8, fig. 3: Pentorchis ^t.—Rangoon ^t.—Syn. arctius ^c Southwell, 1930, 171.—Reported for: #573 Helarctos (malayanus t. h.).
- †310. HYMENOLEPIDIDAE, pp. 107, 446, 622, 810. See †314 Hymenolepis and Aelurotaenia.
- †314. Hymenolepis, pp. 107, 446, 622, 810.
 - †diminuta, pp. 107, 446: Hymenol.—
 Reported for: #479 Canis (familiaris). Continued in later bulletins.
 Vectors, add: †1639 Ctenocephalides (canis); †1252 Dermestes (peruvianus); †1624 Leptopsylla (musculi); †1635 Pulex (irritans); †1269 Tenebrio (obscurus); Ulosonia (parvicornis).
 - liguloides Gervais, 1847a [Halysis 1]:

 Hymenol.; Weinlandia; Drepanidotaenia s; Dilepis 1; Taenia 1.—

 France t.—Reported for: #433

 Genetta (abyssinica). Continued in later bulletins; Phoenicopterus (antiquorum t. h.).
 - †nana, pp. 108, 446: Hymenol.— Reported for: #479 Canis (familiaris i). Continued in later bulletins.
 - species Gaiger, 1915, J. Comp. Path. Therap., v. 28, March, 69: Hymenol.—India.—"Improbable that worm belongs to this genus", fide Southwell, 1930, 147.—Reported for: #479 Canis (familiaris).
 - species Galli-Valerio, 1931, Centralbl. f. Bakt. Orig., v. 120 (1-2), Feb., 104: *Hymcnol.*—Ova.—Reported for: #511 Mustela (erminea).

-. Aelurotaenia Cameron, 1928, J. Helminthol., v. 6 (2), June, 90, 92-93, tod. mt. planicipitis.—†310 HYMENOLEPIDIDAE: Differs from Similuncinus 7 as follows: Hooks 12, with blunt handle and with blade set at an angle to it. Testes about 15; vas deferens coils only in middle field; seminal vesiele not distinct; ovary bilobed; yolk gland uterus saelike, only spherical; secondarily forming egg-capsules by the ingrowth of connective So. Similuncinus, fide tissue. Woodland, 1929, Parasitol., v. 21,

planicipitis Cameron, 1928, J. Helminthol., v. 6 (2), June, 90–92, figs. 2–4: Aelurotaenia; Similuncinus.—London Zoo, from Malay States ^t.—Reported for: #413 Fclis (planiceps t. h.).

†317. ANOPLOCEPHALIDAE, pp. 108, 446, 811.

†318. ANOPLOCEPHALINAE, pp. 108, 446, 812.

species Galli-Valerio, 1930, Centralbl. f. Bakt. Orig., v. 115 (3-4), Jan., 217: ANOPLOCEPHALINAE.—Ova.—Switzerland.—Reported for: #485 Vulpcs (species).

species Galli-Valerio, 1931, Centralbl. f. Bakt. Orig., v. 120 (1-2), 104: ANOPLOCEPHALINAE.—Ova.—Reported for: #521 Martes (martes).

318B. Anoplocephala, p. 446.

species Gaiger, 1915, J. Comp. Path. Therap., v. 28, March, 69: Anophocephala.—Lahore, India.—"Very improbable that worm belonged to this genus", fide Southwell, 1930, 36.—Reported for: #479 Canis (familiaris).

318a. THYSANOSOMINAE.

-. Avitellina.

lahorea Woodland, 1927, Ann. Trop. Med. Parasitol., v. 21, 394-398, pl. 26, figs. 11-15: Avitallina.—India t.—Reported for: #479 Canis (species).

319C. LINSTOWINAE, p. 447, 812. See Atriotacnia and Oochoristica.

—. Atriotaenia Sandground, 1926, Contrib. Harvard Inst. Trop. Biol. & Med., No. 4, 284, 290-291, tod. mt. parva.—319C LINSTOWINAE: Musculature consists of a single layer well-developed longitudinal muscle bundles; transverse museles represented by a few short isolated fibres underlying longitudinal museles. Genital atrium museular and with a spacious lumen divided to a greater or lesser extent by inpushings of its walls so as to form diverticula into one of which both ♂ and ♀ genital duets open. Genital pores irregularly alternate. Genital duets pass between nerve cord and ventral exerctory canal. Cirrus and eirrus pouch relatively small and weakly developed; testes numerous; distributed uniformly to the sides of and behind the ovary. Vagina opens beneath and a little posterior to cirrus; ovary consists of radially disposed lobes, in anterior median line of segment; uterus either not present at all or is a very ephemeral organ. Embryos possess only 2 enveloping membranes and come to lie in irregular unlined lacunae in the parenehyma.

parva Sandground, 1926, Contrib. Harvard Inst. Trop. Biol. & Med., No. 4, 284–290, figs. 10–13: Atriotaenia.—Brazil ^t.—Reported for: #563 Nasua (socialis t. h.).

319K. Oochoristica, pp. 448, 812.

amphisbeteta Meggitt, 1924, Parasitol., v. 16 (1), Jan., 48-50, figs. 1A-1B: Oochoristica.—Burmat.—Reported for: #464 Herpestes (birmanicus s. albopunctatus t. h.).

herpestis, p. 812: Oochoristica.—Sudan t.—Reported for: #451 Galerella (sanguincus t. h.).

ichneumontis Baer, 1924, Ann. Parasitol., v. 2 (3), July, 243-244;

^{&#}x27;Similuncinus Johnston, 1909, tod. mt. dacclonis.—†310 HYMENOLEPIDIDAE: Ilooks 30 to 36, with sharply pointed handle with which blade is continuous. Testes 50 to 60; vas defercus coils just before and after entering cirrus sac not in middle field; seminal receptacle present; ovary small, not distinctly bilobed; yolk gland bilobed; uterus reticulated (resembling that of †308 Dipylidium), diverticula surrounding testes and ultimately forming egg-nests.

1926, 11th & 12th Rep. Dir. Vet. Educ. Res., Pretoria, 82, fig. 18: Oochoristica.—S. Africa t.—Reported for: #451 Galerclla (gracilis t. h.); #511 Foctorius s (species).

incisa Railliet, 1899c: Oochoristica.— Châteaudun '.—Reported for: #528 Mclcs (mclcs melcs s. taxus o t. h.).

†**320**. TAENHDAE, pp. 108, 449, 622, 812. †**321**. TAENHNAE, p. 109.

†322. Echinococcus, pp. 109, 449.

†alvcolaris * [p. 110] Klemm, 1883a: Echinoc.; Taenia!.—Munich t, Germany.—So. multilocularis.—Reported for: #479 Canis (familiaris).

†echinococcus * [p. 109] Zeder, 1803a: Echinoc.; Taenia 1.—So. granulosus.—Reported for: #413 Felis (couguar so. concolor couguar); #479 Canis (aurcus, dingo, familiaris, lupus, mesomelas, species (jackal, wolf)).

[fclis-concoloris * Diesing, 1863a: Taeniola.—Brazil *.—So. oligarthrus.— Reported for: #413 Fclis (concolor t. h., couguar so. concolor couguar).]

granulatus Zeder, 1800a, for ? granulosus.—Reported for: #413 Felis (catus).

†granulosus, pp. 109, 449: Echinoc.—
Reported for: #413 Fclis (catus [dom.], concolor, couguar so. concolor couguar, mitis, panthera, pardus, species (panther)); #464 Herpestes (ichneumon, species); #473 Lycaon (capensis, pictus venaticus so. pictus); #479 Canis (aureus, azarae, dingo, familiaris, lupus, mesomelas, species (jackal, wolf)); #485 Vulpes (chama, species exp., vulpes); #576 Ursus (species).

[juvencula o Diesing, 1863b: Taenia orassicollis.—S. America oligarthrus.—Reported for: #413 Felis (concolor t. h., couguar so. concolor conguar).]

longimanubrius Cameron, 1926, J. Helminthol., v. 4 (1), Mareh, 20, fig. 2e: Echinoc.—S. Africa t.—Reported for: #473 Lycaon (capensis t. h.).

minimus Cameron, 1926, J. Helminthol., v. 4 (1), March, 21, fig. 2f: Echinoc.—Macedonia t.—Reported for: #479 Canis (lupus t. h.).

†multilocularis, p. 110: Echinoc.— Reported for: #479 Canis (familiaris).

oligarthrus Diesing, 1863b [Taenia]: Echinoc.—Brazil L.—Reported for: #413 Felis (concolor t. h., couguar so. concolor couguar, jaguarondi).

omissa Luche, 1910, 694 [Taenia]: Echinoc.—S. America ¹.—Reported for: #413 Felis (concolor, couguar so. concolor couguar, jaguarondi, species (wild cat), tigrina).

pardi * Diesing, 1863a [nomen nudum here]: Echinoc.—So. granulosus.—Reported for: #413 Fclis (mitis, pardus t. h.).

†polymorphus *, pp. 109, 449: Echinoc.—So. granulosus.—Reported for: #413 Felis (catus); #479 Canis (familiaris).

*species Chapin, 1921, J. Parasitol., v. 7 (4), June, 200: Echinoc.—Zoo, Washington, D. C.—Reported for: #473 Lycaon (capensis).

species (Lindenfeld or Johnston) Stiles, 1906, 76: Echinoc.—Reported for: #479 Canis (dingo).

†324. Multiceps, pp. 110, 449, 812.

[brachysoma s Setti, 1899b: Taenia l.— Italy l.—So. brauni, fide Baer, 1926, 108.—Reported for: #479 Canis (familiaris t. h.).]

brauni Setti, 1897 [Taenia]: Multiceps; Cystic. taeniae.—Ghinda t.—Reported for: #479 Canis (familiaris t. h.).

coenurus o Tschudi, 1837 [Polycephaluso]: Multiceps; Cysticercus 1; Cystotaenia 1; Hydatis 1; Taenia 1.—
So. multiceps.—Reported for: #479
Canis (familiaris, species); #486
Alopex (lagopus, species (Arctic fox)).

gaigeri Hall, 1916, J. Amer. Vet. Med. Assoc., v. 50, Nov., 214-223, figs. 1-4 (Coenurus s serialis o of Gaiger, 1907, renamed): Multi-

- ceps.—Reported for: #479 Canis (familiaris t. h.). Continued in later bulletins.
- [hyperborea * Linstow, 1905: Taenia !.—E as t Greenland !.—So. multiceps, fide Baer, 1926, 108.—Reported for: #486 Alopex (lagopus t. h.).]
- †multiceps, p. 110 [Taenia]: Multiceps.—Reported for: #479 Canis (aureus, familiaris, latrans, mesomelas, nebracensis, species); #485 Vulpes (vulpes); #486 Alopex (lagopus).
- *packi Christenson, 1929, J. Parasitol., v. 16 (I), Sept., 49-51, pl. 5, figs. 1-4: Multiceps.—Minnesota t.—Reported for: #479 Canis (familiaris exp.). Continued in later bulletins; coenurus in Lepus (americanus phaenotus) and other hares.
- †serialis, pp. 110, 449 [Coenurus]:
 Multiceps; Multiplex ^m; Taenia ¹.—
 Reported for: #413 Felis (catus);
 #469 Hyacna (species); #479 Canis
 (familiaris, lupus); #485 Vulpes
 (vulpes). Continued in later bulletins.
- [serialis o (Gerv., 1847a) of Gaiger, 1907, J. Trop. Vet. Sei., v. 2 (3), July, 316–321: Coenurus.—India.—Renamed gaigeri.—Reported for: #479 Canis (familiaris exp.). Larva in goat.]
- [species Engelmayer [nv]: Coenurus.—Reported for: #413 Fclis (catus).]
- species Pagenstecher, 1877, of Linstow, 1889a: Multiceps; Coenurus.— Reported for: #479 Canis (familiaris).
- *species Shaw, 1928, Kansas Univ. Sci. Bul., v. 18, 495: *Multiceps.*— Kansas.—Reported for: #479 *Canis* (familiaris).
- [species Sonthwell, 1922, Ann. Trop. Med. Parasitol., v. 16 (2), July, 128: Taenia ¹. Calcutta Zoo.— So. multiceps, fide Sonthwell, 1930, Fama Brit. India, v. 2, 18.— Reported for: #413 Felis (pardus).]
- theropitheci, p. 449: Multiceps serialis.—Reported for: #479 Canis (familiaris exp.).

- †325. Taenia r, p. 110.
 - antarctica Fuhrmann, 1920, Deutsche Südpolar Exped., 1901–1903, v. 16, Zool., v. 8 (4), Dec., 520–522, figs. 118–123: T. — Winterstation — Reported for: #479 Canis (familiaris t. h.).
 - *balaniceps Hall, 1910, Proc. U. S. Nat. Mus., v. 39 (1780), Oct. 25, 139-146, figs. 1-9: T.r—Washington, D. C., from Nevadat.—Reported for: #413 Felis (rufa, rufa texensis s. rufa maculatah o); #479 Canis (aureus, familiaris t. h.).
 - brevicollis Rud., 1819a, 159: T.r— Berlin^t.—Reported for: #511 Mustela (erminea t. h.).
 - canina h s Bloch, 1782a: T. Europe t.
 —So. crassiceps; so. marginata; so.
 serrata.—Reported for: #479 Canis
 (familiaris t. h., lupus, species
 (wolf)); #485 Vulpcs (species).
 - crassiceps, p. 808 [Alysclminthus]: T.*; Halysis.—Reported for: #479 Canis (lupus); #485 Vulpcs (alopex so. vulpcs, melanogaster so. vulpes melanogaster, species, vulpcs t. h.). Continued in later bulletins.
 - cratacgaria Batsch, 1786a: T.r—Syn. crassiceps 1800.—Reported for: #485 Vulpes (species, vulpes t. h.).
 - erythraca Setti, 1897, 25-28: T.r.—Massauat, Eritrea.—Reported for: #479 Canis (familiaris, mesomelas t. h.).
 - hyacnac Baer, 1924, Ann. Parasitol., v. 2 (3), July, 247; 1926, 11th & 12th Ann. Rep. Dir. Vet. Edue. Res. Pretoria, 105, figs. 42-43: T.r—S. Africa t.—Reported for: #469 Hyaena (brunnea t. h.).
 - laticollis Rud., 1819a: T.r—Mus. Vienna.—Reported for: #413 Felis (canadensis, lynx t. h.).
 - laticollis o "Rud." of Linstow, 1903u: T.r.—So. monostephanos.— Reported for: #413 Fclis (lynx).
 - maerocystis Diesing, 1850a: T.r; Cysticercus.—Brazil ¹.—Reported for: #413 Felis (baileyi, fasciata, jaguarondi, macroura, rufa, species, tigrina, wicdii); #547 Galictis ^o (species). Continued in later bulletins; Lepus (brasiliensis t. h.).

- monostephanos Linstow, 1905cc, laticollis "Rud." of Linstow, 1903u, renamed: T.—Reported for: #413 Felis (lynx t. h.).
- ovata Molin, 1858d: T.r—Padua t, Italy.—Reported for: #485 Vulpes (vulpes t. h.); #486 Alopex (lagopus).
- parva Baer, 1924, Ann. Parasitol., v. 2 (3), July, 246–247; 1926, 11th & 12th Rep. Dir. Vet. Educ. Res. Pretoria, 105–107, figs. 33–41: T. S. Africa t.—Reported for: #433 Genetta (ludia t. h.).
- platydera Gervais, 1847a, 89-90, pl. 1, figs. 1-1B: T.-Montpellier t, France.—Reported for: #433 Genetta (genetta t. h., species).
- polyacantha Leuckart, 1856a, 67-68, pl. 2, figs. 1 p, 1 q: T. r; T. (Cystotaenia).—Giessen t, Germany.—Reported for: #485 Vulpes (alopex so. vulpes t. h., species).
- regis Baer, 1923, Revue suisse Zool.,
 v. 30 (13), Dec., 338, 347–349, figs.
 9-10: T. Sudan t.—Reported for:
 #413 Fclis (lco t. h.).
- *rileyi Loewen, 1929, Parasitol., v. 21 (4), Nov., 469-470, pl. 21, figs. 1-4: T.r—Minnesota t.—Reported for: #413 Felis (canadensis t. h.).
- species Baer, 1923, Revue suisse Zool., v. 30 (13), Dec., 349–350, fig. 11: T.-Sudan.—Reported for: #469 Hyaena (maculata t. h.).
- species Hall, 1920, N. Amer. Vet., v. 1 (3), June, 123: T. -St. George Island, Alaska.—Reported for: #486 Alopex (lagopus).
- species Setti, 1897a, 21–23, pl. 8, figs. 15–16: T.-Massaua, Eritrea.— Reported for: #437 Viverra (species).
- species Southwell, 1922, Ann. Trop. Med. Parasitol., v. 16 (2), July, 129: T.—Calcutta Zoo, India.—Reported for: #576 Ursus (torquatus o so. tibctanus).
- species Southwell, 1922, Ann. Trop. Med. Parasitol., v. 16 (2), July, 128: T.r—Calcutta Zoo, India.—So.? †325b pisiformis, fide Southwell, 1930, Fauna Brit. India, v. 2, 16.—Reported for: #413 Fclis (tigris).

- triserrata Meggitt, 1928, Parasitol., v. 20 (3), Oct., 319–320: T. —Paraguay t.—Reported for: #413 Felis (species t. h.).
- ursi-maritimi Rud., 1810a, 197-198: T.-Mus. Paris.—Reported for: #575 Thalarctos (maritimus t. h.).
- ursina Linstow, 1893g: T. Copenhagen Zoo, from Russia Reported for: #576 Ursus (arctos t. h.).
- †325b. Taenia (Taenia), pp. 111, 449, 813.
 - [caninae Werner, 1782b, 56, not as specific name: T.—See canina solium.—Reported for: #479 Canis (familiaris).]
 - cucurbitina Pallas, 1766a, solium renamed: T.—Reported for: #479 Canis (familiaris).
 - cucurbitina canis h s Batsch, 1786a: T.—So. pisiformis.—Reported for: #479 Canis (familiaris).
 - cynica · Boureier, 1859a, marginata renamed: T.—Reported for: #479 Canis (familiaris t. h.).
 - †eysticercus h o, pp. 112, 450: T.—So. marginata.—Reported for: #479 Canis (lupus).
 - †hydatigena, pp. 111, 450, 813: T. (T.).—Larva= †326 Cysticercus tenuicollis.—Reported for: #413 Felis (catus, leo); #473 Lycaon (pictus); #479 Canis (familiaris, lupus, mesomelas, species (jackal, pariah dog)).
 - krabbei Moniez, 1879c: T. [(T.)];
 Cysticercus.—Lapland t. Reported for: #479 Canis (familiaris).
 Continued in later bulletins; Tarandus (rangifer t. h.).
 - lupina s Schrank, 1788a: T.—So. hydatigena.—Reported for: #479 Canis (lupus).
 - †marginata s,pp. 111, 450: T. (T.); T. (Cystot.); Halysis.—So. hydatigena.—Reported for: #413 Fclis (catus, leo); #479 Canis (familiaris, lupus t. l., mcsomelas, species (jackal)).
 - monostephana Diesing, 1863b: T. serrata.—Reported for: #479 Canis (familiaris borcalis t. h.).
 - novella * Neumann, 1896f: T.— France t.—So. pisiformis.—Re-

- ported for: #413 Fclis (catus [dom.] t. h., species).
- ovis Cobbold, 1869a: T.; Cysticercus.—Europe t.—Contracted from sheep.—Reported for: #479 Canis (familiaris, species (pariah dog)). Continued in later bulletins; Ovis (aries t. h.).
- †pisiformis, p. 111: T. (T.).—Reported for: #413 Felis (catus, leo, pardus, tigrina, tigris); #473 Lycaon (pietus); #479 Canis (aureus, familiaris, latrans, nebracensis, species (jackal)); #485 Vulpcs (species, vulpes); #488 Urocyon (cincrcoargenteus).
- polycalcaria * Linstow, 1903g: T.— Ceylon t.—So. pisiformis, fide Baer, 1926, 108.—Reported for: #413 Felis (pardus t. h.).
- putorii d Gmelin, 1790 a [nomen nudum]: T.; Cystic.—So. ? pisiformis.—Reported for: #511 Mustela (putorius t. h.).
- serratas of Authors, of dogs: T.; Halysis.—So. pisiformis.—Reported for: #479 Canis (aureus, familiaris); #488 Urocyon (cincreoargenteus).
- serrata canis h o Gmelin, 1790a: T.— So. pisiformis.—Reported for: #479 Canis (familiaris t. h.).
- serrata canis-domestici et -vulpis ^p Rud., 1793a: T.—Europe ^t.—So. pisiformis.—Reported for: #485 Vulpcs (vulpcs).
- serrata fusa o Neumann, 1896f: T.— France t.—Anomaly of serrata of [= pisiformis] of dogs.—Reported for: #479 Canis (familiaris).
- serrata vcra Kuech., 1855a: T.—Germany •.—So. pisiformis.—Reported for: #479 Canis (familiaris t. h.).
- †solium, p. 111: T. (T.).—Reported for: #413 Fclis (catus); #479 Canis (familiaris).
- solium s of Werner, 1782b: T. canina [; T. serrata of dogs].—So. ? pisiformis.—Reported for: #479 Canis (familiaris t. h.).
- †325c. Taenia (Hydatigera or Reditaenia), pp. 111, 450, 622, 813.

- ammonitiformis Baird, 1862a: T.— London Zoo.—So. erassicollis. Syn. ammoniformis 1894.—Reported for: #413 Felis (concolor t. h., couguar so. concolor couguar).
- collo brevissimo d Bloch, 1782a: T.—Germany d.—So. taeniaeformis of cats.—Reported for: #413 Felis (catus [dom.]).
- conocephala Diesing, 1854b, foinae E. Bl., 1848, renamed: T.— Paris •.—Reported for: #521 Martes (foina t. h.).
- †crassicollis *, p. 111: Taenia.—So. taeniaeformis. Syn. erassieolis **n.—, Reported for: #413 Felis (catus, couguar so. concolor couguar, eyra, leo, macroura, maniculata, maniculata dom., mellivora, mitis, onca, pardalis, silvestris, tigrina, viverrina); #433 Genetta (genetta); #511 Mustela (crminea); #521 Martes (foina).
- felina h Goeze, 1782a, 339; refers to serrata in eats: T.—Reported for: #413 Felis (catus).
- felis ^s Gmelin, 1790a: T. serrata.— So. taeniacformis.—Reported for: #413 Felis (catus [dom.] t. h.).
- foinae ⁸ E. Bl., 1848e: T.—Fontainebleau ^t, France.—So. taeniaeformis, fide Baer, 1926, 108.—Reported for: #521 Martes (foina t. h.).
- globulata * Goeze, 1782a: T.—Europe t.—So. iacniacformis.—Reported for: #413 Felis (catus [dom.] t. h.).
- intermedia ⁸ Rud., 1810a: T.—Germany ¹.—So. taeniaeformis, fide Baer, 1926, 108.—Reported for: #511 Mustela (putorius); #521 Martes (foina, martes t. h.).
- moniliformis * Batsch, 1786a, globulata 1782a renamed: T.—So. taeniacformis.—Reported for: #413

 Felis (catus [dom.]).
- semiteres Baird, 1862a: T.—A monstrosity of crassicollis, fide Neumann, 1892a.—Reported for: #413 Felis (catus [dom.], catus persica t. h.).
- serrata * Goeze, 1782a, of cats: Tacnia; Alysclminthus; Halysis; Cysticercus taeniae.—So. crassicol-

- lis so. taeniaeformis.—Reported for: #413 Felis (catus [dom.] t. h., pardus, tigris).
- servata m s Diesing, 1850a, misprint for serrata of Martes martes: T.—So. intermedia so. taeniaeformis.—Reported for: #521 Martes (martes).
- species Bellingham, 1844, Ann. Mag. Nat. Hist., v. 14 (92), Nov., 322: T.—Northern—Ireland.—So.? taeniaeformis.—Reported for: #413 Felis (silvestris).
- †taeniaeformis, pp. 111, 622: T.; T. (Megacephalus); Hydatigena; Cystic.; Vermis¹; Vesicaria.—Reported for: #413 Felis (catus [dom.], eoncolor, couguar so. concolor eouguar, eyra, leo, libyca, macroura, manieulata, mellivora, mitis, ocreata, onca, pardus, silvestris, tigrina, uinta, viverrina, wiedii); #433 Genetta (genetta); #438 Viverrieula (malaccensis); #479 Canis (familiaris); #511 Mustela (erminea, putorius); #521 Martes (foina, martes). Continued in later bulletins.
- †325d. Taenia (Taeniarhynchus), p. 111.
 - †saginataⁱ, p. 112: T.—? A misdetermination.—Reported for: #413 Felis (catus).
- †**326**. Cysticercus, pp. 112, 450, 622, 813.
 - canis d s Rud., 1809a: Cystic.—Alfort t, France.—So.; eellulosae.—Reported for: #479 Canis (familiaris t. h.).
 - canis-familiaris d Olfers, 1816a [nomen nudum]: Cystic.—Reported for: #479 Canis (familiaris).
 - †cellulosac, pp. 112, 450: Cystic.— Reported for: #413 Felis (catus [dom.]); #479 Canis (familiaris); #511 Mustela (putorius); #576 Ursus (arctos). Continued in later bulletins.
 - cordatus h Tschudi, 1837: Cystic.—? So. pisiformis.—[Germany t.—]
 Reported for: #511 Mustela (putorius t. li.).
 - herpestis Setti, 1892a: Cystic.; Plerocercoides ¹.—Eritrea ¹.—Reported for: #462 Ichneumia (laticauda ^m so. albieauda ¹. h.).

- hominis d Diesing, 1863b: Cystic. tenuicollis.—Reported for: #479 Canis (lupus).
- species Cameron, 1928, J. Helminthol., v. 6 (2), June, 90: Cystie.—
 London Zoo, from Malay States.—
 Reported for: #413 Felis (planiceps).
- species Penrose, 1882: Cystic.—Reported for: #479 Canis (procyonoides).
- †tenuicollis, pp. 113, 450: Cystie.—
 Adult=†325b T. hydatigena.—Reported for: #479 Canis (lupus).
 Continued in later bulletins.
- vulpis Gmelin, 1790a [T.]: Cystic.— Reported for: #485 Vulpes (species t. h.).
- —. Mesocestoididae Fuhrmann, 1907.—†299 taenioidea: Genital pores median, on venter (flat surface). Scolex without rostellum or hooks; suckers unarmed. A single set of reproductive organs in each proglottid. Eggs in gravid proglottids enclosed in a single thick-walled capsule. Adults in mammals and birds. See Mesocestoides. Cf. †297d, p. 103.
- —. Mesocestoides Vaillant, 1863c, mt. ambiguus.—<mesocestoididae: With characters of the family. Syns.: Monodoridium Walter, 1866a, for utriculifera and litterata: Ptychophysa Hamanu, 1885a, type apparently lineata.
 - ambiguus Vaillant, 1863c: Mesoeestoidcs ^t.—Reported for: #433 Genetta (genetta t. h., species).
 - angustatus Rud., 1819a [Taenia]:

 Mesocestoides.—Mus. Vienna.—

 Reported for: #528 Meles (meles meles s. taxus o t. h. s. vulgaris).
 - [astephana * Diesing, 1863b: Taenia ¹ serrata ¹.—So. ? litteratus.—Reported for: #479 Canis (familiaris t. h.).]
 - bassarisci MacCallum, 1921, Zoopathologiea, v. I (6), Aug., 248, fig. 129: Mesocestoides.—New York Zoo, from Mexico —Reported for: #566 Bassariscus (astutus t. h.).
 - caestus Cameron, 1925, J. Helminthol., v. 3 (1), Feb., 40-43, figs. 11-14: Mesocestoides.—N. E.

Africa '.—Reported for: #538 Mcllivora (capensis s. ratel t. h.).

canis-lagopodis * Rud., 1810a [Taenia]: Mesocestoides; Ptychophysa *.—So. lineatus.—Reported for: #413 Felis (catus [dom.]); #479 Canis (familiaris); #486 Alopex (lagopus t. h.). Continued in later bulletins.

elongatus Meggitt, 1928, Parasitol., v. 20 (3), Oct., 317-318, pl. 19, fig. 3: Mesoccstoides.—Reported for: #479 Canis (species (wolf t. h.)).

[lagopodis o Leuckart, 1879a, for canis-lagopodis: Taenia l.—Reported for: #486 Alopex (lagopus).] *latus Mueller, 1927, Trans. Amer. Micr. Soc., v. 46 (4), Oct., 294;

1928, Zool. Jahrb., v. 55 (5-6), 412 414, pl. 9, figs. 2, 10, pl. 10, figs. 12, 16, 23: Mesoccstoides.—
Benidji t, Minnesota.—Reported for: #413 Fclis (catus [dom.]); #552 Mcphitis (minnesotae t. h.).

lincatus Goeze, 1782a [Taenia 1]:

Mesoccstoides; Ptychophysa * 1; Halysis 1.—Hsenburg Forest 1.—Reported for: #413 Felis (caracal, caracal nubica, catus [dom.], concolor, silvestris t. h., species (wild eat), tigris); #479 Canis (aureus, familiaris); #485 Vulpes (species, vulpes); #486 Alopex (lagopus); #528 Meles (mclcs meles).

litteratus Batsch, 1786a [Taenia]:

Mesocestoides; Ptychophysa s; Alyselminthus ; Halysis !—Europe !—

Reported for: #413 Felis (catus [dom.], silvestris); #479 Canis (aureus, azarae, familiaris); #485

Vulpes (species t. li., vulpes s. vulgaris o); #511 Mustela (vison); #521

Martes (foina).

longistriatus Setti, 1897b: Mesocestoidcs; Taenia (Mcsocestoidcs).—
 Ghinda - Reported for: #413
 Felis (silvestris, species ("gatto selvatico" t. h.)).

*maior Mueller, 1928, Zool. Jahrb., v. 55 (5-6), 416-417: Mesoccstoides variabilis.—Mendocino Co.^t, California.—Reported for: #552 Mephitis (occidentalis occidentalis t. h.). mesorchis Cameron, 1925, J. Helminthol., v. 3 (1), Feb., 34-40, figs. 1-10: Mesocestoides.—London Zoo, from Nepal ⁴.—Reported for: #485 Vulpes (ferrilatus s. ferritatus mt. h.).

michaelsenii Loennb., 1896a [Ptychophysas (Taenias)]: Mesocestoides.— Qnilpués, Peña Blanca.—Reported for: #479 Canis (azarae t. h.).

[pscudo-cucumerina* Bailliet, 1863a: Taenia !.—Apparently France *.— So. lineatus.—Reported for: #479 Canis (familiaris t. h.).]

[pscudo-clliptica * Bailliet, 1863a: Taenia '.—Apparently France '.— So. lincatus.—Reported for: #413 Fclis (catus [dom.] t. h.); #479 Canis (familiaris).]

species Hall, 1920, N. Amer. Vet., v. 1 (3), 123: Mcsoccstoides.—St. George Island, Alaska.—Reported for: #486 Alopex (lagopus).

species Hall, 1910, Proc. U. S. Nat. Mus., v. 39 (1780), Oct. 25, 149: Mcsoccstoides.—Reported for: #413 Lynx (species).

species Joyeux & Mathias, 1926, Ann. Parasitol., v. 4 (4), Oet., 334: Mesoccstoides.—Harar, Abyssinia.—Reported for: #479 Canis (mcsomelas) ("chaeal à manteau sp.")).

*species Schwartz, 1927, Sei., n. ser., v. 66, 17–18: Mcsoccstoides; Dithyridium.—Washington, D. C.—Adult reported for: #413 Felis (catus [dom.] exp.); #479 Canis (familiaris exp.). Larva from #464 Herpestes (species (mongoose)).

tenuis Meggitt, 1931, Parasitol., v.23
(2), April, 257–258: Mesoccstoides.
—Burma ^t.—Reported for: #479
Canis (familiaris t. h.).

utriculiferus * Walter, 1866a [Monodoridium *]: Mesocestoides; Taenia ¹. — So. litteratus.—Reported for: #479 Canis (familiaris, lupus); #485 Vulpes (species, vulpes t. h.).

*variabilis Mueller, 1927, Trans.

Amer. Micr. Soc., v. 46 (4), Oct., 294; Zool. Jahrb., v. 55 (5±6), 414–416, pl. 9, figs. 1, 4, 7, 8, pl. 10, figs. 13, 14, 24: Mesocestoides.—

Mendocino Co.⁴, California.—Re-

- ported for: #488 Urocyon (cinereoargenteus californicus so. californicus californicus); #553 Spilogale (phenax phenax).
- -. TETRABOTHRIIDAE 8 Linton, 1891 (1892b).—†299 TAENIOIDEA^j: Scolex unarmed, without rostellum. Suckers usually with an outwardly projecting auricular appendage on anterior border. A single set of reproductive organs in each proglottid. Genital porcs unilateral. Cirrus sac small and nearly spherical, usually united with the genital atrium by a muscular canal. Vitelline gland preovarial; rudimentary uterine pore present or absent. Eggs with thin transparent envelopes. Adults in mammals and birds. See Tetrabothrius. Cf. †297*C*, †297*b*.
- —. Tetrabothrius Rud., 1819a, tsd. macrocephalus so. emmerinus.—

 <TETRABOTHRIDAE: Acetabular appendages and muscular atrial canal present; genital pore on left side of strobila. Cirrus and genital atrium without, or with a few, hairs. Adults in birds and mainmals.
 - vulpis Blainville, 1828a: Tetrabothrius.—Reported for: #485 Vulpes (species t. h., vulpes).

†327. CESTODA [p. 113] of uncertain position.

species Joyeux & Houdemer, 1927, Ann. Parasitol., v. 5 (4), 309: ?Sparganum or ?Tetrathyridium.— Larva.—Hanoi.—Reported for: #479 Canis (familiaris).

†330. EUNEMATODA ¹⁰ ¹¹, pp. 113-116, 451-477, 622-625, 813-820.

- [*species Crabb, 1921, Proc. Oklahoma Acad. Sci., n. s. 220, Univ. ser. 14, July 15, 65-66: "Round worms".—Wichita Mts.—Reported for: #552 Mephitis (mesomelas).]
- †337. Anguillula, pp. 117, 451.
 - species Schneider, 1896, Centrbl. Bakter., vol. 20, p. 115: Anguillula.—Reported for: #479 Canis (familiaris).
- †339. Rhabditis, pp. 118-119, 451.
 - †pellio, p. 119 [Pelodera s]: Rhabditis; Leptodera l.—Europe l.—Reported for: #479 Canis (familiaris). Continued in later bulletins; earthworms t. h.
 - plicata Schneid. [nv]; Fuchs, 1915, 200: Rhabditis.—Reported for: #479 Canis (familiaris); #485 Vulpes (vulpes).
 - strongyloides Schneid., 1860b [Pelodytes h t]: Rhabditis; Pelodera s t; Leptodera .—Reported for: #479 Canis (familiaris).
- †352a. Nematoideum, pp. 121, 622.
 - canis-familiaris Dies., 1851a: Nematoideum.—Reported for: #479 Canis (familiaris t. h.).
 - species Dav., 1877a: Nematoideum.— Reported for: #413 Felis (catus).
 - species Par., 1894a: Nematoideum.— Turin, Italy.—Reported for: #479 Canis (familiaris).
 - [species Sonsino, 1896m, 439: Nematode.—Egypt.—Reported for: #413 Felis (catus).]
 - *species Wilson, 1922, J. Elisha Mitchell Sci. Soc., Chapel Hill, N.C., v. 38 (1-2), Sept., 15-16: Nematodc.—Wake Forest, North

Bothridiotaenia · Lönnberg, 1896a, tod. erostris typica;

Eutetrabethrium o Diesing, 1854b;

Prosthecocotyle . Montieelli, 1892r, mt. tod. forsteri.

⁵ For review of divergent opinions regarding systematic position, see Southwell, 1930a, Fauna Brit. India vol. 1, 201.

⁹ Syns.: Amphoterocotyle * Diesing, 1863a, mt. elegans;

¹⁰ Asenath Graves McKnight and Marion M. Farr have assisted in the preparation of the cross reference to the roundworms.

¹¹ As it can be taken for granted that most persons likely to use this bulletin have access to Yorke & Maplestone, 1926a, Nematodo Parasites of Vertebrates, pp. 1-536, it appears unnecessary to print in this bulletin keys to the various nematode genera. Diagnoses, however, will be given for genera not cited by Yorke & Maplestone.

Carolina.—Reported for: #413 Felis (catus [dom.]).

ursi Gmelin, 1790a [Taenia 1]: Nematoideum; Cysticereus 1; Strongylus 1.—Reported for: #576 Ursus (arctos t. h., species).

†355. Strongyloides, pp. 121, 451.

canis * Brumpt, 1922a, 694: Strongy-loides.—Extreme Orient *t.—So. †stercoralis, fide Fülleborn, and Sandground, 1925; var. of stercoralis, fide Chandler, 1925; valid species, fide Yorke & Maplestone, 1926a.—Reported for: #479 Canis (familiaris).

felis Chandler, 1925, Parasitol., v. 17
(4), Oct., 432, fig. 1: Strongyloides
stercoralis.—Calcutta t, India.—
Reported for: #413 Felis (catus
[dom.] t. h.).

†*fülleborni, p. 451: Strongyloides.— Reported for: #413 Felis (catus [dom.] exp.); #479 Canis (familiaris exp.).

tintestinalis, pp. 122, 451: Strongy-loides.—Reported for: #413 Felis (bengalensis).

†longus *, p. 122: Strongyloides.— Italy *.—Reported for: #479 Canis (species); #485 Vulpes (species); #511 Mustela (nivalis s. vulgaris, putorius, species (weasel)); #552 Mephitis (mephitis).

nasua ^e Darling, 1911: Strongyloides.—Panama ^t.—So. †stercoralis, fide Chandler, and Sandground, 1926.—Reported for: #563 Nasua (narica panamensis t. h.).

species Cameron, 1927, J. Helminthol., v. 5 (3), Sept., 143: Strongy-loides.—Sumatra.—Reported for: #413 Felis (temminckii).

species Cameron, 1928, J. Helminthol., v. 6 (2), June, 94-95: Strongyloides.—London Zoo, from Malay States.—Reported for: #413 Felis (planiceps).

species [p. 452] Gonder, 1907 ["not stercoralis"]: Strongyloides.—So. fülleborni, fide Sandground, 1925.—Reported for: #479 Canis (familiaris exp. neg.).

*species Price and Dikmans, 1929, J. Parasitol., v. 16, Dec., 104: Strongyloides.—U. S. A.—Reported for: #413 Felis (catus [dom.]).

†stercoralis | [pp. 122, 452] of Chandler, 1925, Parasitol., v. 17 (4), Oct., 432: Strongyloides; Rhabdonema | .—Reported for: #479 Canis (familiaris); #563 Nasua (nasua).

†stercoralis †, pp. 122, 452: Strongy-loides.—Reported for: #413 Felis (catus [dom.] exp.); #479 Canis (familiaris exp.); #563 Nasua (socialis exp.).

[†strongyloides s, p. 122: Rhabdone-ma h.—Reported for: #479 Canis (familiaris).]

westeri Ihle, 1917: Strongyloides; Strongylus m.—Reported for: #479 Canis (familiaris exp. neg.). Continued in later bulletins.

†366. Trichinella, p. 123.

[canis * Kraemer, 1853a: Trichina h.— Germany t.—Reported for: #479 Canis (familiaris t. h.).]

[†pubis, p. 123, apparently for trichina o: Pseudalius d.—So. spiralis.—Reported for: #413 Felis (catus [dom.]); #479 Canis (familiaris). Continued in later bulletins.]

[species Claus, 1931, Zeitschr. f. Fleisch. v. Milch., 250: Trichina h.—Reported for: #485 Vulpes (species).]

†*spiralis, pp. 123,814: Trichinella.— London ^t, England.—Reported for: #413 Fclis (catus [dom.]); #427 Paradoxurus (species); #479 Canis (familiaris, species); #485 Vulpes (species, vulpes); #486 Alopex (lagopus); #511 Mustela (furo,putorius s. foetida °); #521 Martes (foina, martes); #528 Meles (meles melcs s. taxus o); #544 Taxidea (taxus); #561 Procyon (lotor); #575 Thalarctos (maritimus); #576 Ursus (species). Continued in later bulletins.

[†trichina °, p. 123, for spiralis: Pseudalius d.—Reported for: #479 Canis (familiaris).]

†368. TRICHURIDAE, p. 123.

†370. Trichuris, pp. 124, 453.

†affinis *, p. 124: Trichuris.—So. ovis 1795.—Reported for: #511

- Mustcla (furo). Continued in later bulletins; Ovis arics t. h.
- campanula s Linst., 1889c [Tricho-cephalus e]: Trichuris.—So. serrata 1879.—Brazil t.—Reported for: #413 Felis (catus [dom.] t. h.).
- *depressiuscula Rud., 1809a, vulpis 1789 renamed [Trichocopholus •]: Trichuris.—Reported for: #479 Canis (familiaris); #485 Vulpes (species t. h., vulpes).
- [†*dispar °, pp. 124, 453: Trichocephalus °.—So. trichiura.—Reported for: #413 Felis (catus [dom.]).]
- [felis * Dies., 1851a: Trichocephalus o; Trichoc. eampanula 1.—Brazil t.— So. ? campanula; so. serrata, fide Orioste, 1923, 38.—Reported for: #413 Fclis (tigrina t. h.).]
- muris Schrank, 1788a, 21 [Trichocephalus o]: Trichuris; Mastigodes o.—Reported for: #479 Canis (familiaris).
- [nitzschi Gieb., 1866a: Trichocephalus o.—Reported for: #521 Martes (martes t. h.).]
- ovis, p. 453 [Trichocephalus °]: Trichuris.—Reported for: #479 Canis (familiaris). Continued in later bulletins.
- serrata Linst., 1879b [Trichocephalus °]: Trichuris.—Reported for: #413 Fclis (catus [dom.] t. h.).
- species Canavan, 1931, Parasitol., v. 23 (2), Apr., 197, 199: *Trichuris.*—Philadelphia Zoo.—Reported for: #413 Felis (pardalis).
- [species Chatin, 1874, Ann. Sci. nat. Zool., 5 ser., v. 19, 42, 104; Henry & Leblois, 1923, Rec. Méd. vét. Paris, v. 99 (3), Feb., 88-90: Trichocephalus i o.—Reported for: #538 Mellivora (capensis).]
- [species Faust, 1922, Trans. 4th Congr. Far Eastern Ass. Trop. Med., Batavia, (1921), v. 1, 3 (reprint): "Trichurids".—North China.—Reported for: #479 Canis (familiaris).]
- [species Onji, 1921, Centralbl. f. Bakt., Orig., 503: Trichoc. Japan.—Reported for: #528 Mclcs (species).]

- [species Railliet, 1893a, 483: Trichoc.o—Europe.—Reported for: #511 Mustela (furo).]
- *vulpis Froel., 1789a [Trichocephalus °]: Trichuris; Mastigodes °.— Europe '.—Reported for: #479 Canis (familiaris, lupus); #485 Vulpcs (fulva, vulpes t. h.).
- †372. Hepaticola, pp. 124, 453.
 - †hepatica, pp. 124, 453: Hepaticola.— Reported for: #413 Felis (catus [dom.] exp. neg.); #479 Canis (familiaris exp.). Continued in later bulletins.
- species Wright, 1930, J. Parasitol., v. 17 (1), Sept., 54: Hepaticola.— Washington, D. C.—Reported for: #479 Canis (familiaris).
- †**372**a. Trichosoma 1, pp. 124, 453, 623, 814.
 - cati Cobbold, 1873c: Trichosoma.— Reported for: #413 Felis (silvestris t. h.).
 - felis-cati Dies., 1851a [nomen nudum]:

 Trichosomum ; Capillaria :—Ireland :—Reported for: #413 Felis
 (catus [dom.], silvestris s. catus :
 ferus t. h.).
 - lineare * Leidy, 1856b: Trichosomum 1; Capillaria 1.—So. ? felis-cati.—Reported for: #413 Felis (catus [dom.] t. h., silvestris).
 - putorii * [p. 814] Rud., 1819a: Trichosoma '; Capillaria '.—C. E. V.— So. †372b alata.—Reported for: #499 Lutra (lutra); #511 Mustela (crminea, putorius t. h., sibirica); #521 Martes (foina).
 - [species Bockum, 1888 [nv]: Trichosoma 1.—Reported for: #528 Meles (melcs melcs).]
 - [species Cameron, 1928, J. Helminthol., v. 6 (2), June, 98: Capillaria —London Zoo, from Malay.—Reported for: #413 Fclis (planiccps).]
 - species Creplin, 1846 [nv]: Trichosomum '.—Reported for: #413 Fclis (silvestris).
 - species Sandground, 1921, S. Afr. J. Sci., v. 17 (3-4), July, 326: Trichosomum.—Reported for: #413 Felis (catus); #479 Canis (familiaris).

- species Schlotthauber, 1860a, 125: Trichosoma 1.—Reported for: #413 Felis (catus [dom.]).
- †372b. Capillaria, pp. 124, 623, 814.
 - alata * Mol., 1858d [Calodium]: Cap. (Cap.); Trichosoma .— Paduat, Italy.—So. entomelas.—Reported for: #511 Mustela (foetida o so. putorius t. h., vulgaris so. nivalis); #521 Martes (foina).
 - [canis-vulpis * Rayer, 1843g: Trichosoma | .—So. plica.—Reported for: #485 Vulpes (vulpes t. h.).]
 - entomclas Duj., 1845a [Trichosoma °]: Cap. (Cap.).—Rennes ^t, France.— Reported for: #511 Mustcla (putorius, species (weasel), vulgaris so. nivalis); #521 Martes (foina t. h.).
 - mucronata Mol., 1858d [Calodium]: Cap. (Cap.); Trichosoma °.—Padua ^t, Italy.—Reported for: #521 Martes (foina t. h.).
 - mustelae Mol., 1860c: Trichosoma •.—Ireland •.—So. alata.—Reported for: #511 Mustela (nivalis s. vulgaris t. h.).
 - pachykeramota Wedl, 1856b [Trichosoma°]: Cap. (Cap.).—Reported for: #413 Fclis (tigrina); #415 Acinonyx (guttatus so. jubatus t. h.).
 - plica Rud., 1819a, 14 [Trichosoma °]:
 Cap. (Cap.); Calodium.—Berlin ^t,
 Germany.—Reported for: #413
 Felis (catus, species); #479 Canis
 (familiaris, lupus t. h., species);
 #485 Vulpcs (fulva, species, vulpes).
 - species Lewis, 1927, J. Helminthol., v. 5 (4), Dec., 177: Cap.—Wales.—Reported for: #413 Felis (catus [dom.]).
- Eucoleus Dujardin, 1845a, 3, 23, 24-25 [not Eucolus Muls., 1853, Colcopt.], tod. tsd. (1926) aerophilus Crep., 1839a.—< †368 TRICHURIDAE; CAPILLARIINAE. Possibly identical with †372 Hepaticola. See Yorke & Maplestone, 1926a, 29.</p>
 - aëorophyllum m, for aerophilus, q. v. *aerophilus [p. 814] [Trichosomum]: Eucoleus t; Capillaria ; Cap. (Thominx 1).—Syn. aerophyllum c.—Reported for: #413 Felis (catus [dom.]);

- #479 Canis (familiaris, lupus); #485 Vulpes (fulva, species, vulpes t. h.); #521 Martes (martes); #528 Meles (species).
- aerophyllum , for aerophilus, q. v.
- †375. Agamonema, pp. 124, 623. Syn. Agamonematodum Dies., 1861a, 727.
 - affine *, pp. 623, 815 [Trichina h l]:

 Agamonema.—Reported for: #413

 Felis (catus [dom.]); #479 Canis
 (familiaris); #528 Meles (meles
 melcs s. taxus °). Continued in
 later bulletins; Larus (ridibundus
 t. h.).
 - [*gaylordi Ransom in Gaylord & Ransom, 1914: Agamoncmatodum.—
 Maine ¹, U. S. A.—Syn. gacpordi ^m.—Reported for: #479 Canis (familiaris t. h.).]
 - [species Bochefontaine, 1874a, 282–285, 1 fig. [: Agamonematodum.]—Reported for: #479 Canis (familiaris).]
- †378a. Strongylus 1, pp. 125, 453.
 - brauni Linstow, 1897c: Strongylus ¹.— Königsberg Zoo ¹, Germany.—Reported for: #437 Viverra (zibetha t. h.).
 - foinae ° Rud., 1809a, gulonis renamed: Strongylus ¹.—Reported for: #521 Martes (foina t. h.); #523 Gulo (gulo).
 - glandularis Rud., 1819a: Strongylus ¹ vulpis ^h.—Vienna Museum.—Reported for: #485 Vulpcs (vulpes t. h.).
 - [gulonis Gmel., 1790a, renamed foinac: Taenia '; Cysticereus '.—Reported for: #523 Gulo (gulo t. h.).]
 - oesophageus Rud., 1819a: Strongylus ¹ vulpis ^h.—Europe.—Reported for: #485 Vulpes (vulpes t. h.).
 - species Della-Rovere, 1863a, 455–457; Strongylus 1.—Italy.—Reported for: #479 Canis (familiaris).
 - species Dubler, 1892a: Strongylus ¹.— Zoo, Switzerland.—Reported for: #413 Felis (species (panther)).
 - species Onji, 1921, Centralbl. f. Bakt., Orig., v. 86 (6), July 8, 502: Strongylus.—Japan.—Reported for: #479 Canis (procyonoides).

species Parona, 1894a: Strongylus 1.—Pisa, Italy.—Reported for: #479 Canis (familiaris).

vulpis h Rud., 1819a [Dubium l] [cf. Uncinaria vulpis Froelich]: Strongylus l.—Vienna Museum.—Reported for: #485 Vulpes (vulgaris o so. vulpes t. h.).

†384. ANCYLOSTOMIDAE, pp. 126, 454. See †387 Ancylostoma, 388d Arthrocephalus, Arthrostoma, 388c Bunostomum, Galoncus, †390 Necator, 388f Tetragomphius, 390B Uncinaria.

species Weidman in Fox, 1923, Dis. Captive Wild Mamm. & Birds, 624, 626: Hookworms. Genus and species not cited.—Philadelphia Zoo.—Reported for: #413 Felis (eyra, jaguarondi, pardalis, rufa, rufa texensis); #479 Canis (mexicanus); #485 Vulpes (pennsylvanica so. fulva, species, velox); #486 Alopex (lagopus); #488 Urocyon (cinereoargenteus). Continued in later bulletins.

†387. Ancylostoma, pp. 127, 454.

balsami ⁸ Parona & Grassi, 1877b (c) [Dochmius ¹]: Ancylostoma; Ankylost. ⁶; Uncinaria ¹; Dochmius ¹ tubaeformis; Strongylus ¹.—Italy ¹.—So. caninum, fide Looss, 1905a, 32. Syn. balsamoi ^m.—Reported for: #413 Felis (catus [dom.] t. h., silvestris); #479 Canis (familiaris).

†*brasiliense e, pp. 127, 454, for braziliense: Ancylostoma; Ankylost.e; Uncinaria!.—Ric de Janeiro t, Brazil.—Reported for: #413 Felis (catus [dom.], leo, pardus, planiceps, species, temminckii, tigris); #433 Genetta (species); #437 Viverra (species); #479 Canis (familiaris, species (wolf)); #570 Ailurus (fulgens); #574 Melursus (ursinus).

†*caninum, p. 127 [Sclerost. ¹]: Ancylostoma; Ancylost. (Ancylost.); Agchylost.¹; Dochmius ¹; Uncinaria ¹; Strongylus ¹.—Europe ¹.—Reported for: #413 Felis (catus [dom.], jaguarondi, lynx, nebulosa, onca,

pardalis, pardus, rufa, rufa texensis, silvestris, species, temminckii, tigris, viverrina); #415 Acinonyx (guttatus so. jubatus); #433 Genetta (genetta, ludia); #438 Viverricula (malaccensis); #476 Cuon (dukhunensis); #479 Canis (aureus, azarae, familiaris t. h., jubatus, latrans, lupus, mesomelas, mexicanus, nubilus, pallipes, species (jackal)); #483 Fennecus (species, zerda); #485 Vulpes (bengalensis, leucopus, species, velox, vulpes); #486 Alopex (lagopus); #488 Urocyon (cinereoargenteus); #528 Meles (meles meles); #574 Melursus (ursinus).

†ceylanicum *, p. 127: Ancylostoma; Ancylost. (Ceylancylost.); Ankylostoma °.— Ccylon °.— So. brasiliense.—Reported for: #413 Felis (bengalensis, catus [dom.], leo, nebulosa, pardus, species, tigris, viverrina); #435 Civettictis (civetta); #438 Viverricula (malaccensis t. h.); #476 Cuon (dukhunensis); #479 Canis (familiaris, pallipes, species (Pariah dog)); #570 Ailurus (fulgens); #574 Melursus (ursinus).

conepati Solanct, 1911 [Agchylostoma.—Buenos Aires t, Argentina.—Reported for: #550 Conepatus (proteus, suffocans t. h.).

†duodenale, pp. 127, 454: Ancylostoma.—Italy t.—Reported for: #413
Felis (catus [dom.], leo, tigris, viverrina); #433 Genetta (species); #435 Civettictis (civetta); #479 Canis (familiaris, species (Pariah dog)).
Continued in later bulletins.

[felis Zuern, 1882a, 262: Dochmius balsami; D. balsamis —.—Reported for: #413 Felis (catus [dom.] t. h., silvestris).]

†malayanum, p. 454: Ancylostoma (Ceylancylost.); Uncinaria 1; Ankylost. °; Agchylostomad.—Reported for: #573 Helarctos (malayanus t. h.); #574 Melursus (ursinus); #576 Ursus (species).

[mephites Solanet, 1909 [Agchilostoma d]: Agchylostoma d.—Buenos

Aires ^t, Argentina.—Cf. concpati.—Reported for: #550 Concpatus (suffocans t. h.).]

mephitis ^h Micheletti, 1929, Ann. di med. nav. e colon., Rome, v. 35 (8), 255, figs. 1–7: Ankylostoma.— Africa ^t.—Reported for: #540 *Ictonyx* (zorilla t. h.).

minimum Linstow, 1906 [Ankylostomum c]: Ancylostoma; Uneinaria l.—Ceylon t.—Reported for: #413 Felis (rubiginosa t. h.).

[pcrrodens Kitt, 1915: Uncinaria 1.— Munieh Zoo, from Sumatra.— Reported for: #413 Fclis (tigris, tigris sondiaca t. h.).]

*pluridentatum Alessandrini, 1905 [Uncinaria 1]: Ancylostoma; Agchylostoma d; Ankylostoma o.— Brazil t.—Reported for: #413 Felis (eyra, mitis t. h., pardalis, rufa, species, tigrina, tigris).

species Bodkin & Cleave, 1916, Bul. Entom. Res., 182: Ancylostoma.— British Guiana.—Reported for: #479 Canis (familiaris).

[trigonocephalum r Rud., 1805a; 1808a, see 388c Bunostomum trigonocephalum.]

trigonocephalum 1 Rud., 1808a, of Authors: Ancylostoma 1; Ankylost.1; Dachmius m; Doehmius 1; Docmius m; Strongylus 1; Uncinaria 1; U.1 canina.—Variants d: trichocephalus, trigocephalus, trigonacephalus, trigonocefalus, trigonoceohalus, trigonocoefalus, trigonouphalus. A much confused species; pars so. caninum; pars so. 390B stenocephala; pars so. 390Btetragonoccphala.—Reported #413 Felis (catus [dom.], concolor, silvestris, species); #415 Acinonyx (jubatus); #479 Canis (azarae, familiaris, jubatus, latrans, lupus); #480 Otocyon (megalotis); Fennecus (cerdo so. zerda); #485 Vulpes (species, vulpes); #486 Alopex (lagopus).

tubacforme; s Zeder, 1800a [Strongylns]: Ancylostoma; Anchylostomum; Ankylost.c; Dochmius; Docmius m; Ophiost.d;

Uncinaria 1.—So. ? caninum or muidentifiable. — Europe 1. — Reported for: #413 Felis (catus [dom.] t. h., concolor, lco, lcopardus 1 so. pardus lcopardus, mellivora, onca, panthera, pardus 1, rufa, tigrina, tigris, viverrina).

388d. Arthrocephalus, p. 454.

gambiensis Ortlepp, 1925, J. Helminthol., v. 3 (3-4), Aug., 151-155, figs. 1-6: Arthrocephalus ^t.—London Zoo, from Gambia ^t, W. Africa.—Reported for: #464 Herpestes (species (African mongoose t. li.)).

—. Arthrostoma Cameron, 1927, J. Helminthol., v. 5 (3), Sept., 143, 148, mt. tod. felineum.—<†384 ANCYLOSTOMIDAE: Buccal capsule articulated (composed of 8 plates), dorsal cone and armature to oral aperture absent.

fclineum Cameron, 1927, J. Helminthol., v. 5 (3), Sept., 143–148, figs. 1–10: Arthrostoma.—Sumatra t.—Reported for: #413 Felis (catus [dom.] exp., temminckii t. li.).

388c. Bunostomum, p. 454.

trigonocephalum ^r Rud., 1808a, pl. 2, figs. 5–8 [Str. ¹]: Bunostomum; Uncinaria (Monodontus).—Europe^t.—Reported for: #479 Canis (familiaris). Continued in later bulletins; Ovis (arics t. h.).

[trigonocephalum], see †387 Ancylostoma trigonocephalum.]

—. Galoncus Railliet, 1918, Bul. Soc. Path. exot., v. 11 (2), 86, 89-90, tod. perniciosus.—<†384 ANCY-LOSTOMIDAE, †385 ANCYLOSTOMINAE. See Yorke & Maplestone, 1926a, 94.

perniciosus Linstow, 1885b, 238 [Ankylostomum]: Galoncus [; Ancylostoma]; Uncinaria].—Hamburg Zoo , Germany.—Reported for: #413 Felis (leo, nebulosa, pardus, species (leopard, panther), tigris t. h.).

tridentatus Khalil, 1922, Ann. Mag. Nat. Hist., ser. 9, v. 9, 596–602, figs. 1-6: Galoncus.—London Zoo.—Reported for: #413 Felis (nebulosa t. h.). 388/. Tetragomphius Baylis & Daubney, 1923, Ann. Mag. Nat. Hist., v. 11, March, 334, mt. tod. procyonis.—<†384 ANCYLOSTOMIDAE, †388 NECATORINAE. See Yorke & Maplestone, 1926a, 105.

procyonis Baylis & Daubney, 1923, Ann. Mag. Nat. Hist., v. 11, March, 334–335; 1923, Rec. Indian Mus., v. 25 (6), 573–575, figs. 17–20: Tetragomphius.—Calcutta Zoo, India ¹.—Reported for: #561 Procyon (species t. li.).

†390. Necator, pp. 128, 455.

†*americanus, pp. 128, 455: Necator.—Reported for: #479 Canis (familiaris). Continued in later bulletins.

390*B*. Uneinaria, p. 455. Syns.: Unciearia ^m 1926, Uneinaris ^m 1929.

bidens Mol., 1861a [Dochmius]: Uncinaria.—Ypanema t, Brazil.—Reported for: #561 Procyon (cancrivora); #563 Nasua (narica, socialis).

carinii Trav., 1915: Uncinaria.— S. Paulo ^t, Brazil.—Reported for: #479 Canis (azarae t. h.).

catholica Onelli, 1905: Uncinaria.—
Buenos Aires ^t, Argentina.—Reported for: #413 Fclis (jaguarondi s. yaguarundi, leo, mitis, onca); #479 Canis (azarae, lupus).

crassa Duj., 1845a [Dochmius 1]:
Uncinaria.—Senegal t.—Reported
for: #433 Genetta (genetta, senegalensis); #437 Viverra (species
t. h.).

*criniformis Goeze, 1782a [Ascaris 1]:

Uncinaria; Ancylostoma 1; Ankylost. c; Dochmius; Strongylus 1.—

Germany t.—Reported for: #479

Canis (familiaris, lupus); #485

Vulpes (vulpes); #486 Alopex
(lagopus); #511 Mustela (putorius);

#528 Meles (taxus o so. meles meles
t. h.).

[forceps ursi-lotor d p M. C. V. in Mol., 1861a: Strongylus.—Ypanema, Brazil d.—So. bidens and maxillaris.—Reported for: #561

Procyon (cancrivora t. h.).]

*lotoris Schwartz, 1925, Proc. U. S. Nat. Mus., v. 67, (2598), 1–4, figs. 1–4: Uncinaria.—Prince

Georges Co., Maryland; Texas.— Reported for: #561 Procyon (lotor t. h.); #566 Bassariscus (astutus).

maxillaris Mol., 1861a [Dochmius]: Uncinaria.—Ypanema ^t, Brazil.— So. ? criniformis.—Reported for: #561 Procyon (cancrivora t. h.).

[melinus o Fabr., 1794a, melis renamed: Strongylus 1.—Reported for: #528 Meles (meles meles).]

melis ⁸ Sehrank, 1788a [Strongylus ¹]: Uncinaria; Asearis ¹.—So. criniformis.—Reported for: #528 Meles (meles melcs t. h., species).

polaris * Looss, 1911: Uncinaria.—N.
America t.—So. stenocephala, fide
Hall, 1923, 37.—Reported for:
#479 Canis (familiaris); #485 Vulpes (fulva); #486 Alopex (lagopus
t. h.).

species Galli-Valerio & Bornand, 1927, Schweiz. Arch. Tierheilkde, v. 69 (11), Nov., 527: *Uncinaria.*— Switzerland.—Reported for: #479 Canis (familiaris).

[species Rail., 1890w, 143: Dochmius.—Japan.—Reported for: #479 Canis (familiaris).]

species Rail., 1900, 83: *Uncinaria*.— Reported for: #413 *Felis* (species).

species Vevers, 1920, Proc. Zool. Soc. London, (3), Sept., 409: *Uncinaria*.—London Zoo, from Tibet.—Reported for: #413 Felis (lynx).

species Weidman in Fox, 1916, 36–37:
Uncinaria.—Reported for: #413
Felis (jaguarondi s. yaguarundi,
rufa, rufa texensis); #479 Canis
(species (gray wolf)); #485 Vulpcs
(fulva, velox, vulpcs); #486 Alopex
(lagopus); #488 Urocyon (cinereoargenteus).

species Weidman in Fox, 1923, Dis. Mamm. & Birds, 630, 631: Uncinaria.—Philadelphia Zoo.—Reported for: #413 Felis (pardalis); #485 Vulpes (pennsylvanica so. fulva, velox).

†*stenocephala, p. 455: Uncinaria; Dochmoides *; Uncicaria **; Uncinaris **.—Alfort *, France.—Reported for: #413 Felis (catus [dom.], species); #479 Canis (azarae, familiaris t. h.); #483 Fennecus (cerdo so. zerda); #485 Vulpes (fulva, species, vulpes s. vulgaris o); #486 Aloper (lagopus). Continued in later bulletins.

[tetragonocephalus o Rud., 1809a, 232, rul p is renamed: Strougylus 1.— Germany 1.—Reported for: #479 Canis (familiaris); #485 Vulpes (species, vulpes t. h.).]

[ursi Duj., 1845a; Dochmius.—Vienna Mus.—Reported for: #575 Thalarctos (maritimus t. h.).]

[arsi-maritimi o Mus. Wien in Duj., 1845a, 277: Strongylus 1.—So. ursi.—Reported for: #575 Thalarctos (maritimus).]

[viverrae-naricae & M.C.V. in Mol., 1861a: Strongylus \.—Brazil \.— 80. bidens.—Reported for: #563 Nasua (narica t. h.).]

[vulpinus ^c Fabr., 1794a, vulpis remained: Strongylus ¹.—Reported for: #485 Vulpes (vulpes).]

rulpis ** Froel., 1789a: Uncinaria.— Europe *.—So. criniformis.—Reported for: #479 Canis (familiaris); #485 Vulpes (species, velox. vulpes t. h.).

 \dagger 395c. Strongylus r. pp. 129, 456.

cquinus Mueller, 1780; 1784a, 6
[Sclerostoma o]: Strongylus v.—
Syn. variegata v.—Reported for:
#479 Canis (familiaris). Continued in later bulletins; Equus (caballus t. h.).

[variegata * Brug., 1792a: Ascaris 1.— So. equinus.—Reported for: #479 Canis (familiaris). Continued in later bulletins; Ungulates t. h.]

 $\dagger 395m$. Trichonema, p. 129.

[affine Stoss., 1902e: Cyathostomum h o.—Ghinda t, Eritrea.— Reported for: #413 Felis (silvestris s. catus ferus t. h.).]

nassatum Looss, 1900c [Cyathost. ho]: Trichonema; Cylichnost. o; Cylicost. o—Egypt t—Reported for: #413 Felis (pardus). Continued in later bulletins; Equus t. h.

†400. Oesophagostomum. pp. 131, 456.

rentri Thornton, 1924, Ann. Trop.
Med. Parasitol., v. 18 (3), Oct. 31,
404-408, figs. 3a-f: Oesophagost.—
Brazil t.—Reported for: #413 Fetis (species (Brazilian wild cat
1. h.)).

†402a. Chabertia, p. 132.

[hypostomus* Rud., 1819a: Strongy-lus*; Dochmius*; Sclerost.* Vienna Museum.—So. ovina.—Reported for: #511 Mustela (species). Continued in later bulletips; Rupicapra (rupicapra t. h.).]

†404. SYNGAMIDAE, p. 132. See †407 Syngamus and Cyathostoma

†407. Syngamus, p. 132.

dispar Diesing, 1851a [Sclerostoma 4]:
Syngamus.—Brazil 1.— Reported
for: #413 Felis (concolor 1. 11. concolor conguar, species).

laryngeus Rail., 1899e: Syngamus.—
Annam t.—Reported for: #479 Canis (familiaris). Continuel in later bulletins; Bos ("le boeuf" t. h.).

Cyathostoma E. Bl., 1849a, nit. lari.—< †404 SYNGAMIDAE: Sexes not joined in permanent copula. Buccal capsules of both sexes large, heavily walled, furnished at base with 6 or 7 teeth arranged about center, teeth of 2 distinct sizes. Excretory pore and esophagus as in Syngamus. 5 with normal strongyliform bursa, rays slender and sometimes dersai ray) branched, spicules long (more than 400 \(\mu\), filiform. Vulva of \(\mathbf{Q}\) variable in position, sometimes in anterior 3rd, sometimes median or slightly postmedian; tip of ? tail acute. Eggs moderate in size, operculated after deposition. So. †407 Syngamus, fide Yorke & Maplestone, 1926a, 156. Not Cvathostomum h Molin, 1861a, nematode.

*bronchiale Mueldig, 1884a [Syngamus]: Cyathostoma.—Japan :—
Reported for: #576 Ursus (beringiana). Continued in later buffetins; Anseridae (Japanese 20082 t. h.).

†409a. CLOACINIDAE, p. 132. See Cloacina.

Cloacina Linst., 1898c, mt. auhli.
 < †409a. See Yorke & Maple-stone, 1926a, 175.

octodactyla Linst., 1906: Cloacena.— Pfalz '. -Reported for: # 979 Causs (familiaris t. h.). †411. TRICHOSTRONGYLIDAE, pp. 132, 457. See †417 Haemonchus, Microstrongylus, †411Q Molincus, Nematostrongylus, Ollulanus, †411P Trichohelix, †414 Trichostrongylus.

†417. Haemonchus, pp. 132, 136. Cf.

†411H.

†*contortus, p. 137: Hacmonchus.—Reported for: #575 Thalarctos (maritimus). Continued in later bulletins; Ovis (aries t. h.).

—. Microstrongylus Cameron, 1927, J. Helminthol., v. 5 (2), June, 81, int. tod. gcnettae.—<†411 trichostrongylidae, †412 trichostrongylidae; Head without umbrella-shaped swelling. Cervical groove present, with symmetrical cephalic swelling. ♀ genital pore postequatorial. Bursa symmetrical; spicules long, filiform, tripartite.

genettae Cameron, 1927, J. Helminthol., v. 5 (2), June, 81-88, figs. 1-5: Microstrongylus t.—London Zoo.—Reported for: #433 Genetta

(senegalensis t. h.).

†411Q. Molineus, pp. 133, 458.

europaeus Zunker, 1929, Zeitschr.
f. Parasitenkunde, v. 2 (1), 7-9,
figs. 1-5: Molineus.—Germany t.—
Reported for: #511 Mustela (putorius t. h.).

felineus, p. 458: Molineus.—S. America ^t.—Reported for: #413 Felis (jaguarondi s. yaguarundi t. h.).

patens Duj., 1845a [Strongylus 1]:
Molineus; Trichostr. 1, q. v.—Rennes t, France.—Reported for: #510
Vormela (sarmatica); #511 Mustela (crminea, foctida so. putorius, vulgaris so. nivalis).

sibiricus Author ? [nv]: Molineus.— Reported for: #511 Mustela (sibi-

rica).

—. Nematostrongylus Cameron, 1928, J. Helminthol., v. 6 (2), June, 95-98 (9-12), mt. tod. planicipitis.—<†411 TRICHOSTRONGYLIDAE: Cervical ring and excretory groove present; spicules short with sharp points. Prebursal papillae present. Ovejeetors equal.

planicipitis Cameron, 1928, J. Helminthol., v. 6 (2), June, 95–98, figs. 5–7: Namatostrongylus t.—London Zoo, from Malay States t.—Reported for: #413 Felis (planiceps t. h.).

—. Ollulanus Leuckart, 1865a, mt. tricuspis.— < †411 TRICHOSTRON-GYLIDAE, †411d HELIGMOSOMINAE. See Yorke & Maplestone, 1926a, 148.

bicuspis Craig, 1915 (? lapsus for tricuspis): Ollulanus.—Reported for: #413 Fclis (catus [dom.] t. h.).

*tricuspis Leuck., 1865a: Ollulanus.—Germany t.—Syn. trikuspis.—Reported for: #413 Felis (catus [dom.] t. h.); #485 Vulpes (species, vulpes). Continued in later bulletins.

trikuspis Schneidem., 1896a (for tricuspis): Ollulanus.—Reported for: #413 Felis (catus [dom.]).

†411P. Triehohelix, p. 133.

tuberculota Par. & Stoss., 1901a [Oesophagostomum 1]: Trichohelix t.—Genoa, from Argentina t.—Reported for: #552 Mephitis (machitis). Continued in later bulletins; Dasypus t. h.

†414. Trichostrongylus, pp. 135, 459. [foetus "Diesing" of Galli-Valerio, 1927, Centralbl. f. Bakt., Orig., 178, ?lapsus for patens: Strongylus¹.—Reported for: #511 Mustela (erminca).]

patens Duj., 1845a [Strongylus]: Trichostr.; Molincus, q. v.—Rennes , France.—Reported for: #510 Vormela (sarmatica); #511 Mustela (crminea, foetida so. putorius, vulgaris so. nivalis).

- †418. METASTRONGYLIDAE °,12 p. 137. See Acturostrongylus, Crcnosoma, Hacmostrongylus, Metastrongylus, Protostrongylus, Skrjabingylus, Synthetocaulus, Troglostrongylus.
 - [species Bichowsky, 1927, Centralbl. f. Bakt., Abt. 2, v. 72, 266-268: METASTRONGYLINAE. Leningrad, U. S. S. R.—Reported for: #521 Martes (zibelling).]
- Aelurostrongylus Cameron, 1927,
 J. Helminthol., v. 5 (1), March,
 12-14, figs. 4-6, mt. tod. abstrusus.
 †418 metastrongylidae:
 Telemon and cuticular plates absent; median dorsal ray normal in type. Cf. footnote under †418.
 - abstrusus Railliet, 1898b (pusillus h Mueller, renamed) [Str.¹]: Aelurostrongylus ¹; Protostr.¹; Synthctocaulus ¹.—Reported for: #413 Felis (catus [dom.] t. h.). Continued in later bulletins; larva in Mus (musculus).
 - [nanus Braun & Luehe, 1909a (apparently for pusillus h Mueller): Strongylus l; Metastrongylus l.— Munich t, Germany.— Reported for: #413 Felis (catus [dom.] t. h.).]
 - [pusillus h Mueller, 1890c [not Rud., 1803a, renamed abstrusus [Str.]]: Protostr.; Metastr.—Munich t, Germany.—Reported for: #413 Felis (catus [dom.] t. h.).]
- —. Crenosoma Molin, 1861a (b), tsd. (1926a) striatum.—<†418 METASTRONGYLIDAE, †419 METASTRONGYLINAE. See Yorke & Maplestone, 1926a, 165.
 - [annulatus & Sieb., 1848a: Strongy-lus 1.—So. vulpis.—Reported for: #479 Canis (lupus t. h.).]
 - [canis-vulpis M. C. V. in Mol., 1861a: Strongylus Europe So. semiarmatum.—Reported for: #485 Vulpes (vulpes t. h.).]

- decoratum * Creplin, 1847a [Str.]:

 Crenosoma.—Europe t.—So. semiarmatum.—Reported for: #485

 Vulpes (vulpes t. h.).
- [lupi d s of Molin, 1861 [not Rud., 1809]: Strongylus !.—So. vulpis.— Reported for: #479 Canis (lupus).]
- mustclae Galli-Valerio, 1930, Centralbl. f. Bakt., Orig., v. 115, 218: Crenosoma.—Valais t, Switzerland.—Reported for: #511 Mustela (putorius t. h.).
- potos Buckley, 1930, J. Helminthol., v. S (4), Dec., 229-238, figs. 1-13: Crenosoma.—London Zoo.—Reported for: #568 Potos (flavus t. h.).
- scmiarmatum o Molin, 1861a, canisvulpis + vulpis + decoratus renamed: Crcnosoma.— Europe t.—
 Reported for: #485 Vulpes (vulgaris o s. vulpes t. h.).
- species Rail., 1899c: Crenosoma.— Reported for: #528 Meles (meles meles).
- taiga Skrjabin & Petrow, 1928, Parasitol., v. 20 (3), Oct., 332– 334, figs. 11–15: Crenosoma.—Siberia ^t.—Reported for: #511 Mustela (sibirica t. h.).
- vulpis * Duj., 1845a [Liorhynchus]:

 Crenosoma [; ? Filaroides].—

 Europe t.—Reported for: #479

 Canis (lupus, species); #485 Vulpes
 (vulpcs t. h.).
- —. Haemostrongylus Railliet & Henry, 1907a, 753, tod. Strongylus I vasorum; or Angiostrongylus Kamensky, 1905, Sborn. Trood. Charkov. Vet. Inst., v. 7 (2), 44. [It is not clear to us whether "typus Ang. vasorum (Baill.) II Ang. cardiacus Bossi", is intended as a genotype designation or is used in the sense of example.]—<†418 METASTRONGYLIDAE, †419 METASTRON-

¹² There is a slight confusion of names in this family, only part of which we can straighten out as one important paper involved is not clear to us.

METASTRONGYLIDAE 1908 is in reality simply an emendation of METASTRONGYLIDA 1861, complying with the International Rules. PROTOSTRONGYLIDAE 1905 is a subjective synonym.

The original publication of *Protostrongytus* 1905 is not clear to us as respects the type species; the generic name competes with *Acturostrongytus* 1927 and *Synthetocoutus* 1907. Pending information as to the type species of *Protostrongytus*, we must enter all three genera as recognized.

GYLINAE. See Yorke & Maplestone, 1926a, 164.

raillicti Trav., 1927, Bol. biol., v. 6, May 26, 54-55, 4 plates: Haemostrongylus. — Brazil ⁴. — Reported for: #479 Canis (azarae t. h.).

subcrenatus Rail. & Henry, 1913: Hacmostrongylus.—Dongou, Belgian Congo ^t.—Reported for: #413 Felis (leopardalis, pardus t. h.).

[subulatus * Leisering, 1865 [Haematozoon]: Strongylus 1; Strongyloides m.—Dresden t, Germany.—So. vasorum.—Reported for: #479 Canis (familiaris t. h.).]

vasorum Bail., 1866b [Strongylus]:

Haemostrongylus; Haemonchus !.—

Reported for: #413 Fclis (pardus);

#479 Canis (familiaris t. h.).

Ivasorum canis Vogel, 1899, see vasorum: Strongylus 1.—Syn. vasorum kanis c.—Reported for: #479 Canis (familiaris).]

†421. Metastrongylus, pp. 139, 460.

octodactyla Linst., 1906 [Cloacina]:

Metastrongylus.—Landau bei Niederhochstadt, Pfalz t.—Reported
for: #479 Canis (familiaris t. h.).

- —. Protostrongylus ¹³ "Kamensky, 1905, Sborn. Trood. Charkov. Veterinar. Institut", v. 7 (2), 42. Cf. footnote ¹² under †418. Type of PROTOSTRONGYLINAE ³.
 - pusillus h Mueller, 1890c [not Rud., 1803a], renamed abstrusus [Str.]:

 Protostr. [; Aelurostr. q. v.];

 Metastr.!—Munich t. Germany.—

 Reported for: #413 Felis (catus [dom.] t. h.).
- —. Skrjabingylus Petrow, 1927, Samml. helm. Arb. Skrjabin, Moskau, 146, 149, tod. nasicola.—
 < †418 METASTRONGYLIDAE: In frontal sinus. Body covered with strong euticle. Oral aperture opens terminally and leads into

mouth-capsule. Candal end of of provided with fine bilobed bursa copulatrix, which has appearance of 2 budlike formations, each provided with 5 papillae; spicules 2, equal, with side alae; gubernaculum present. Genital opening of ♀ postequatorial; 2 uteri, divergent. Viviparous.

- [mustelarum d 1 s, a confused name, pars of Authors, in frontal sinus, not Filaraia m mustelarum Rud., 1809a, in skin: Filaroides l.— Europe l.—So. nasicola.—Reported for: #499 Lutra (lutra); #511 Mustela (erminea, nivalis); #552 Mephitis (mephitis l, species).]
- nasicola Leuck., 1842a [Filaria]:

 Skrjabingylus t; Spiroptera 1.—

 Europe t.—Reported for: #499

 Lutra (lutra); #511 Mustela (erminea, nivalis, putorius t. h.); #521

 Martes (foina).
- —. Synthetocaulus Rail. & Henry, 1907a, tod. commutatus.—< †418 METASTRONGYLIDAE, †419 METASTRONGYLINAE. See Yorke & Maplestone, 1926a, 158, 162. Cf. footnote 12 under †418.
 - species Vevers, 1920, Proc. Zool. Soc. London, 410: Synthetocaulus.— London Zoo, from India.—Reported for: #413 Felis (bengalensis).
- —. Troglostrongylus Vevers, 1922, Proc. Zool. Soc. London, 906-908, tat. troglostrongylus.—<†418 METASTRONGYLIDAE, †419 METASTRONGYLINAE. See Yorke & Maplestone, 1926a, 164.

troglostrongylus Vevers, 1922, Proe. Zool. Soc. London, 906–908, fig. 5:
Troglostrongylus ¹.—India ¹.—Syn. troglostrongylas ¹¹.—Reported for: #413 Felis (bengalensis t. h.).

¹² See footnote on p. 979.

Diagnosis: Corpus filiforme vel capillare, utrinque attenuatum aut acquale. Os terminalis margine papillis tribus bitidis minus vel vix conspicnis instructo. Extremitas candalis maris inflexa ant convoluta, feminae arcuata aut inflexa, utrique dorsaliter subcarinata, feminae ventraliter toro praeanale plusminusve instructa, apice mucronata. Spicula modo ecruui G. Metastrongyli instructa, sed breviora, retorta, partibus accessoriis (ribus (vel 2 ?). Vulva ani propinqua. Ovipari. Embryonis canda undulata. Parasiti pulmonum, tracheae et bronchium Mammalium (herbivorum carnivorumque).

-. Subo. DIOCTOPHYMEATA 14
Skrjabin, 1927.—<†330 EUNEMATODA: same as †422.

†422. ріосторнумої дел, рр. 138, 460. See 423 А вовопрнумі дає and †423 ріосторнумі дає.

423 A (423). SOBOLIPHYMIDAE Petrow, 1930, Zool. Anz., v. 86 (9), Feb. 1, 270.—Buccal capsule present, strong, unarmed. Cuticle with transverse rings. Excretory system not found. Vulva preequatorial; vagina long. Parasitie in mammals. See 423 B.

423*B.* Soboliphyme Petrow, 1930, Zool. Anz., v. 86 (9), Feb. 1, 270, mt. tod. *baturini*.—Same as 423*A*.

*baturini Petrow, 1930, Zool. Anz., v. 86 (9), Feb. 1, 265-271, figs. 1-4: Soboliphyme.—Kamchatka ^t, Siberia, Asia; U. S. A.—Reported for: #413 Felis (catus [dom.]); #485 Vulpes (vulpes); #521 Martes (zibellina t. h.); #523 Gulo (*species).

†423 (423A). DIOCTOPHYMIDAE, pp. 138, 460.—Buccal capsule absent. †426. Dioctophyme, pp. 138, 460.

[canis b Schrank, 1788a [not Werner, 1782a]: Ascaris l.—So. renale.—Reported for: #479 Canis (familiaris t. li.).]

[gigantcus o Rud., 1808a, for gigas: Str.¹—Reported for: #479 Canis (familiaris, lupus); #499 Lutra (lutra); #521 Martes (martes). Continued in later bulletius.]

gigas s Rud., 1802d [Str.]: Dioctophyme; Eustr. —So. renale.—Reported for: #479 Canis (americanus, azarae, familiaris, jubatus, lupus); #485 Vulpes (americana, species, vulpes); #499 Lutra (lutra, solitaria); #511 Mustela (lutreola, putorius, species (mink), vison, vulgaris so. nivalis); #521 Martes (foina, martes); #523 Gulo (gulo); #547 Grison (vittata); #561 Procyon (lotor); #563 Nasua (socialis). Continued in later bulletins; Phoca (vitulina t. h.).

[gulonis-sibiriei * Dies., 1851a, quotes Pall., 1780, 39: Lumbricus 1.—So. gigas=renale.—Reported for: #479 Canis (familiaris, lupus); #499 Lutra (species); #511 Mustela (nivalis, vison); #521 Martes (martes); #523 Gulo (luscus); #561 Procyon (species); #563 Nasua (species). Continued in later bulletins.]

[martis Schrank, 1788a, 8: Ascaris 1.—So. gigas=rcnale.—Europe t.—Reported for: #511 Mustela (putorius, species (weasel), vulgaris); #521 Martes (martes). Continued in later bulletins.]

†*renale, pp. 138,460: Dioctophyme t.—Reported for: #479 Canis
(familiaris t. h., lupus); #485
Vulpes (species); #499 Lutra
(species (wild otter)); #511 Mustela
(itatsi, species, vison lutreoecphala
so. vison mink); #521 Martes
(martes); #523 Gulo (species (wild
glutton)); #547 Grison (vittata);
#563 Nasua (socialis). Continued
in later bulletins.

[renum canis * Rud., 1809a, quotes Hartm., 1685, 149-152: Lumbricus !.—So. gigas=renale.—Reported for: #479 Canis (familiaris).]

[sanguineus o in rene canis d Dies., 1851a, quotes Hartm., 1705a, 149-152: Lumbricus l.—So. renale.—Reported for: #479 Canis (familiaris, lupus); #499 Lutra (species (otter)); #511 Mustela (species (mink, weasel), vison); #521 Martes (martes, species); #523 Gulo (species (glutton)); #561 Procyon (species (raccoon)); #563 Nasua (socialis, species (coati)). Continued in later bulletins.]

[species von Ihering, 1902a, 47: Eustrongylus o.—Reported for: #479 Canis (azarae, jubatus).]

viscerale * Gmel., 1790a [Ascaris 1]:

Dioctophyme; Eustrongylus o; Fusaria 1.—Europe t.—So. renale.—

Reported for: #479 Canis (azarae,

¹⁴ The names based upon the Greek $\tau \delta \phi \nu \mu \alpha$ (Latin *phyma*, *phymatis*, neuter) should end in a (as emended by Lamour, 1824a, 515). But as zoologists have not accepted this change because of difference of opinion as to how far the principle of emendation should be applied, we follow the original (though incorrect) form (phyme) pending a decision by the International Commission on Zoological Nomenclature or the International Commission on Parasitology.

familiaris t. h., jubatus, lupus); #499 Lutra (lutra s. vulgaris °. solitaria); #511 Mustcla (lutreola, putorius, vison); #521 (foina, martes); #523 Gulo (gulo, luscus); #525 Tayra (barbara).

†432. Microfilaria, pp. 139, 460, 624.

auquieri Foley, 1921, Ann. Inst. Pasteur, Paris, v. 35 (3), March, 215-216, pl. 3, figs. 5-6: Microfilaria.—S. Oran^t, Algeria.—Reported for: #479 Canis (familiaris t. h.).

[canis h Pease, 1901c [not 1858]: Filaria ¹ sanguinis.—India ¹.—Reported for: #479 Canis (familiaris

t. h.).]

lewisi e Korke, 1924, Ind. J. Med. Res., v. 11 (4), April, 1231-1237, pl. 84, figs. 1-5 [lewisii]: Microfilaria.—India t.—Reported #479 Canis (familiaris t. h.).

species Carini & Maciel, 1917, Prim. Conf. Soc. S. A. de Hig., Microb. & Patol., v. 1, 732: Microfilaria.— Brazil.—Reported for: #413 Felis

(tigrina).

species Chatton, 1918, Bul. Soc. Path. exot., v. 11, 571-573, 1 fig.: Microfilaria.—Tonkin, Indo-China; S. Tunis.—Reported for: #413 Felis (catus [dom.]).

species Hamerton, 1929, Proc. Zool. Soc. London, 59: Microfil.—Lon-Zoo.—Reported for: #413 don

Felis (bengalensis).

[species Heinrich & Schuchmann, 1924, Monatsch, prakt. Tierheilkde, v. 34 (10-12), Feb. 9, 273-288, figs. 1-5.—Reported for: #479 Canis (familiaris).]

species Migone, 1916, Bul. Soc. Path. exot., 363 [: Microfilaria].—Reported for: #479 Canis (jubatus).

[species [p. 460] Plimmer, 1912: Fil. Reported for: #413 Felis (temminckii); #448 Suricata (suricatta).]

[species Plimmer, 1913, Proc. Zool. Soc. London, 146: Fil.1—London Zoo, from Malay.—Reported for: #413 Felis (nebulosa).]

[species Plimmer, 1917, Proc. Zool. Soc. London, (1), Mar., 32: Fil. -London Zoo, from Mexico.—Reported for: #413 Fclis (rufa).]

[species Plimmer, 1917, Proc. Zool. Soc. London, (1), Mar., 32: Fil. — London Zoo, from Argentina.— Reported for: #547 Grison (allamandi).]

[species Scott, 1928, Proc. Zool. Soc. London, (1), Apr., 108: Fil. — London Zoo.—Reported for: #479 Canis (adustus).]

species Weidman in Fox, 1923, Dis. Captive Wild Mamm. & Birds, Microfilaria.—Philadelphia 651: Zoo, Pennsylvania.—Reported for: #413 Felis (rufa).

†435. Filaria I, pp. 140, 461, 624.

acuminata h Linst., 1907 [not Rud., 1809a]: Filaria.—Coll. Senckenberg, Frankfurt t, Germany.— Reported for: #499 Lutra (lutra s. vulgaris o t. h.).

acutiuscula Mol., 1858c: Filaria 1.— Caiçara t, Brazil.—Syn. canis o 1858.—Reported for: #479 Canis (azarae t. h., familiaris).

canis o M. C. V. in Mol., 1858c: Filaria.—Barra do Rio Jauru t, Brazil. - So. acutiuscula. - Reported for: #479 Canis (azarae t. h., familiaris).

canis-brachyuris o M. C. V. in Mol., 1858c: Filaria 1.—Brazil t.—So. papillicauda.—Reported for: #479 Canis (brachyurus t. h.).

canis-brachyuri (trachealis) Mol., 1858c: Filaria 1.—Rio Araguay, Brazil t.—Reported for: #479 Canis (brachyurus t. h.).

*dentata h o Walton, 1927, Proc. Acad. Nat. Sci., Phila., v. 79, 106, pl. 6, figs. 39-40 [renamed muscularis 1928]: Filaria \(^1\).—Reported for: #511 Mustela (vison mink s. vison lutreocephala t. h.).

*fasciata Weidmann, 1913: ria ¹.—Philadelphia ^t, Pennsylvania.—Reported for: #413 Fclis (rufa t. h.).

- felis-jaguarondi o M. C. V. in Mol., 1858c: Filaria l.—Ypanema t, Brazil.—So. felis-mellivorae (pulmonalis).—Reported for: #413 Felis (mellivora t. h.).
- felis-mellivorae (pulmonalis) Mol., 1858e: Filaria ¹.—Ypanema ^t, Brazil.—Reported for: #413 Felis (jaguarondi s. yaguarundi, mellivora t. h.).
- felis-oncae o Stoss., 1897b, for felis-oncae (intermuscularis): Filaria 1.— Reported for: #413 Felis (onca).
- felis-oncae (intermuscularis) Mol., 1858c: Filaria 1.—Brazil 1.—Reported for: #413 Felis (onca t. h.).
- hepatica Cobbold, 1873c: Filaria 1.— Reported for: #479 Canis (familiaris t. h.).
- incrassata Mol., 1858c: Filaria 1.— Brazil ^t.—Reported for: #563 Nasua (nariea t. h., socialis). Continued in later bulletins.
- *insignis Leidy, 1858a: Filaria 1.— Reported for: #561 Procyon (lotor t. h.).
- [intestinum Rud., 1819a, not as specific name: Filaria 1.—See vulpis.—Reported for: #485 Vulpes (species).]
- leonis Gmel., 1790a, 3031 [Ascaris]: Filaria ; Fusaria !.—Reported for: #413 Felis (leo t. h.).
- leonis h Gmel., 1790a, 3040: Filaria l.—Reported for: #413 Felis (leo t. h.).
- *muscularis Walton, 1928, Proc. Acad. Nat. Sci., Phila., v. 80, p. 187, dentata h renamed: Filaria l.—Reported for: #511 Mustela (vison mink s. vison lutreocephala t. h.).
- oculi canini de Gescheidt, 1833a: Fil. So. trispinulosa.—Reported for: #479 Canis (familiaris, familiaris fricator).
- papillicauda * Mol., 1858c: Filaria ¹.—Rio Araquay, Brazil ¹.—Syn. canis-brachyuris ².—So. 449A immilis, fide Stoss., 1897b, 34 (22).—Reported for: #479 Canis (brachyurus t. h., familiaris).

- rhabdogalis Sons., 1896m: Filaria 1.— Egypt 4.—Reported for: #540 Ietonyx (zorilla s. mustelina o t. h.).
- sanguinis h canis h Pease, 1901c: Filaria l.— India l.—Reported for: #479 Canis (familiaris t. h.).
- setariosa Monnig, 1926, Rept. Director Vet. Educ. Research, S. Africa, no. 11–12 (part 1), 221–222: Filaria. Transvaal t.—Reported for: #448 Suricata (suricatta t. h.).
- species Cameron, 1928, J. Helminthol., v. 6 (2), June, 94: Filaria 1.— London Zoo, from Malay States.— Reported for: #413 Felis (planiceps).
- species Parona, 1894a, 240 [ex Savignano, 1838]: Filaria.—Reported for: #521 Martes (foina).
- species Sonsino, 1896m, 440: Filaria 1.—Egypt.—Reported for: #464 Herpestes (ichneumon).
- *species Stiles & Hassall, 1894e, 346: Filaria !.—U. S. A.—Reported for: #413 Felis (catus [dom.]).
- *species Stiles & Hassall, 1894e, 346: Filaria !.—U. S. A.—Reported for: #511 Mustela (vison).
- species Weidman in Fox, 1923, Dis. Wild Captive Mamm. & Birds, Filaria .—? Philadelphia Zoo, Pennsylvania.—Reported for: #413 Felis (species (wild cat)).
- trispinulosa Dies., 1851a: Filaria 1.— Reported for: #479 Canis (familiaris, familiaris fricator t. h.).
- viverae M. C. V. in Mol., 1858e: Filaria !.—Nas Trechas, Brazil !.— So. inerassata.—Reported for: #563 Nasua (narica t. h.).
- vulpis Rud., 1809a: Filaria ¹.—Reported for: #485 Vulpes (vulpes t. h.).
- †439. Dracunculus, pp. 142, 462.
 - aethiopicus ⁸ Val., 1856a, 259 [Filaria ¹]: Dracunculus.—Paris from Kordofan ^t, Africa.—So. medinensis.—Reported for: #415 Acinonyx (guttatus so. jubatus t. h.).
 - †*medinensis, pp. 143, 462: Dracunculus; Fil. 1; Vena o.—Reported for: #413 Felis (catus [dom.], pardus,

species (leopard, wild cat)); #415
Acinonyx (guttatus so. jubatus);
#479 Canis (aureus, familiaris,
lupaster, species (jackal, Egyptian wolf)); #511 Mustela (putorius s. communis). Continued
in later bulletins.

†440. filariidae, pp. 143, 462.

—. Filaroides Ben., 1858a, mt. muste-larum ¹ [pulmonalis] so. martis.—
< †440 or protostrongylidae.—
Lungs. Syn. Pseudostrongylus ⁸
Cameron, 1927, J. Helminthol., v.
5 (1), March, 18, tod. putorius ⁸.
bronchialis ^o Gmel., 1790a, 3031
(Gordius ¹ martis Werner, 1782, renamed) [Asearis ¹]: Filaroides;

Fusaria 1; Gordius 1.—Lungs.— Europe t.—Reported for: #511 Mustela (erminea, lutreola, putorius); #521 Martes (foina, martes t. h., species).

[foinae ° Rud., 1809a, gulonis renamed: Strongylus ¹.—Lungs.— Reported for: #521 Martes (foina t. h.); #523 Gulo (gulo).]

[gulonis Gmel., 1790a, renamed foinae: Taenia ¹; Cystieercus ¹.—Lungs.— Europe ^t.—Reported for: #523 Gulo (gulo t. h.).]

martis ^t Werner, 1782a: Gordius ¹ [; Filaroides ¹].—Lungs.—Europe ^t.—Reported for: #521 Martes (martes t. h.).]

[mustelae-foinae * Rud., 1810a [Vermis dubius]: Filaria \(^1\).—Lungs.— Europe \(^t\).—So. mustelarum \(^1\) pulmonalis.—Reported for: \(#521 Martes \) (foina t. h.).]

[mustelae-martis ° Rud., 1810a, martis Werner, 1782a, renamed: Vermis dubius.—Lungs.—Europe ^t.—Reported for: #521 Martes (martes).]

[mustelae-putoriio Rud., 1810a [Vermis dubius]: Filaria 1.—Lungs.— Europe.—So. mustelarum 1 pulmonalis.—Reported for: #511 Mustela (putorius t. h.).]

mustelarum ^{1 s} Rud., 1819a, and pars of Authors, in lungs [not Filaraia ^m mustelarum Rud., 1809a, in skin]: Filaroides; Dubium; Filaria ¹.— Europe ¹.—So. mustelarum pulmonalis.—Reported for: #499 Lu-

tra (vulgaris ° so. lutra); #511 Mustela (erminea, foina, lutreola, putorius, vulgaris so. nivalis); #521 Martes (martes t. ll.); #552 Mephitis (species).

[pulmopalis^{d h o} Rud., 1819a [not Filaria ¹ pulmonalis 1802], martis 1782 renamed: Filaria ¹ mustelarum ¹.—Europe ¹.—Reported for: #511 Mustela (putorius); #521 Martes (foina, martes t. h.).]

[putorius * Cameron, 1927, J. Helminthol., v. 5 (1), March, 18-21, figs. 10-12: Pseudostrongylus *.— Lungs.—Great Britain t.—So. bronchialis, fide Petrow, 1928, 260.—Reported for: #511 Mustela (putorius t. h.).]

—. Solenonema Diesing, 1861a, type?— <†440 FILARIIDAE. See Yorke & Maplestone, 1926a, 439.

[felis-concoloris o M. C. V. in Mol., 1858c: Filaria l.—Brazil t.—So. striatum.—Reported for: #413 Felis (concolor t. h.).]

striatum Mol., 1858c [Filaria]: Solenonema.—Brazil ^t.—Reported for: #413 Felis (concolor, macroura, rufo).

Monopetalonema Dies., 1861a, type? physalurum.—<440a. See Yorke & Maplestone, 1926a, 438.
*eremita Leidy, 1886e: Monopetalonema.—Wyoming t.—Reported for: #544 Taxidea (taxus s. labradorica t. h.).

†447. Dirofilaria, pp. 145, 463. See 449A.

†449. Filaria r, p. 145.

[martis h Gmel., 1790a, 3031 [not Schrank, 1788a]: Ascaris l; Fusaria l.—Subeut.—So. mustelarum.—
Reported for: #511 Mustela (putorius); #521 Martes (foina, martes t. h.); #525 Tayra (barbara). Continued in later bulletins.]

martis Gmelin, 1790a, 3040: Filaria r.—Skin.—Syn. mustelarum.—
Reported for: #455 Mungos (mungo); #511 Mustela (putorius, vison); #521 Martes (foina, martes t. h.); #525 Tayra (barbara); #538 Mellivora (capensis); #540 Ictonyx (capensis so. zorilla). Continued in later bulletins.

- medinensis d of Rosa, 1794a: Filaria.—Skin.—So. martis 1790.— Reported for: #521 Martes (foina t. h.).
- mustelac-barbarae M. C. V. in Mol., 1858c: Filaria.—Brazil '.—So. perforans.—Reported for: #525 Tayra (barbara s. barbatus t. h.).
- mustelac-foinac b* Crepl., 1846b: Filaria z.—So. martis.—Reported for; #521 Martes (foina t. h.).
- mustelarum [†] Rud., 1809a, 69, subcutaneous [not Filaroides mustelarum [†] in lungs] a confused name; Filaraia ¹⁰; Filaroides [‡]. Skin.— Europe [‡].—So. martis 1790.—Reported for: #511 Mustela (putorius); #521 Martes (foina, martes).
- perforans ⁸ Mol., 1858c: Filaria.— So. martis 1790.—Reported for: #511 Mustela (frenata, putorius s. communis ⁹); #521 Martes (foina, martes); #525 Tayra (barbara s. barbatus); #528 Meles (meles meles s. taxus ⁹); #538 Mellivora (ratel so. capensis).
- quadrispina ^e Dies., 1851a: Filaria.—
 Skin.—Europe ^e.—So. martis
 1790.—Reported for: #511 Mustela (putorius); #521 Martes (foina, martes); #525 Tayra (barbara s. barbatus); #538 Mellivora (capensis). Continued in later bulletins.
- subcutanca [?Rnd., 1819a] Civinini, 1842a: Filaria.—Reported for: #511 Mustela (putorius); #521 Martes (foina t. h., martes).
- subcutanea Rud., 1819a, 7: Filaria mustelarum.— Skin.— Europe t.— So. martis 1790.—Reported for: #511 Mustela (putorius); #521 Martes (foina, martes).
- 449A. Dirofilaria, pp. 145, 464. Cf. †447.
 - [crino * Rail. & Cadiot, 1892f (g): Ascaris !.—So. immitis.—Reported for: #479 Canis (familiaris t. h.).]
 - [crinon * Brug., 1792a: Ascaris 1.— So. immitis.—Reported for: #479 Canis (familiaris). Continued in later bulletins.]
 - genettae Baylis, 1928, Parasitol., v. 20 (3), Oct. 31, 295-296, fig. 17:

- Dirofil.—Okoya ¹, Nigeria. Reported for: #433 Genetta (pardina s. tigrina ¹ pardina t. h.).
- granulosa Linst., 1906 [Filaria]:

 Divofil.—Königsberg Mus.—Reported for: #413 Felis (pardus t. h.).
- †* immitis, p. 145 [Filaria 1]: Dirofil. t; Microfil.; Spiroptera. 1—U. S. A. 4— Reported for: #413 Felis (catus [dom.], onca, sondiaca so. tigris sondiaca, tigris); #479 (brachyurus, dingo, familiaris t. h., species (Japanese wolf)); Continued Vulpes (vulpes). later bulletins. Vectors, †1459 Aëdes (aegypti, punctatus, vagans, vexans); †1460 Anopheles (algeriensis, palestinus, sinensis, superpictus); †1458 Culcx (quinquefasciatus); †1639 Ctenocophalides (canis, felis); †875 Rhipicephalus (sanguineus).
- ochmanni Fuelleborn, 1909, 160 [Filaria 1]: Dirofil.; Microfil.—Deutsch-Ost-Afrika t.—Syn. ochmani c.—Reported for: #479 Canis (familiaris t. h.).
- repens Railliet & Henry, 1911, 387:

 Dirofilaria; Filaria ¹.—Bologue ¹.—

 Reported for: #479 Canis (familiaris t. h.); #469 Hyaena (crocuta).

 Vectors: †1459 Aëdes (acgypti, fasciatus); †1460 Anopheles (maculipennis).
- [sanguinis s Cobbold, 1869a; Erc., 1875e: Filaria ; Spiropt. —So. immitis.—Reported for: #479 Canis (familiaris t. h., species (wolf)).]
- species Cameron, 1928, J. Helminthol., v. 6 (2), June, 94: Dirofil.— London Zoo, from Malay States.— Reported for: #413 Felis (planiceps).
- species Canavan, 1931, Parasitol., v. 23 (2), Apr., 197: Dirofil.—Phila. Zoo.—Reported for: #413 Felis (pardalis, rufa).
- [species Horst, 1889, Notes Leyden Mus., v. 11, 16; Filaria¹.—Surinam.—? So. *immitis.*—Reported for: #413 Felis (onca).]
- striata Mol., 1858c [Filaria]: Dirofil.; Dicrofil."; Solenonema .—

Brazil ^t.—Reported for: #413 Felis (concolor, macroura, pardalis).

sudanensis Linst. in Shipley, 1902a, 605 (2), pl. 7, fig. 6 [Filaria]: Dirofil.—Kaka , Sudan.—Reported for: #413 Felis (leo t. h.); #469 Hyaena (species).

†452. Setaria, pp. 146, 464.

species Walton, 1927, Proc. Acad. Nat. Sci. Phila., v. 79, 110: Setaria.—Reported for: #420 Nandinia (binotata).

†453. Dipetalonema, p. 464; s. †453 Acanthochcilonema s, p. 147.

dracuneuloides Cobbold, 1870b [Acanthocheilonema s]: Dipetalonema.—S. Africa t.—Reported for: #413 Felis (eatus [dom.]); #466 Proteles (lalandii so. eristatus t. h.); #469 Hyaena (croeuta); #479 Canis (familiaris); #485 Vulpes (dorsalis). Continued in later bulletins. Vector †875 Rhipieephalus (sanguineus).

grassii Noè, 1907 [Filaria]: Dipetalonema; Acanthocheilonema s.—Reported for: #479 Canis (familiaris t. h.). Continued in later bulletins. Vector †875 Rhipicephalus

(sanguineus).

Grassi reconditumGrassi in Caland., 1890a [Filaria 1]: Dipetalonema; Acanthochcilonema s; Dirofil. -Syn. rekondita m.-Reported for: #479 Canis (familiaris t. h.). Continued in later bulletins. Veetors: †1639 Ctenocephalides (canis, felis); †1458 Culex (fatigans, quinquefasciatus); †1109A Haematopinus (piliferus); †1635 Pulex (irritans);†875 Rhipicephalus (siculus i, sanguineus i).

†455. SPIRUROIDEA, pp. 147, 465, 624, 816.

[species Cameron, 1928, J. Helminthol., v. 6 (2), June, 94: "Spirurid".—London Zoo, from Malay States.—Reported for: #413 Felis (planiceps).]

†457. Agamospirura, p. 147.

liberiae Sandground, 1930, Contr.
Inst. Trop. Biol. Med. Cambridge, No. 5, 484–486, pl. 399, figs. 7–9: Agamospirura.—Liberia t.—Reported for: #456 Crossarchus (obscurus t. h.).

species Henry & Sisotf, fide Skrjabin, 1924, Berl. Tierärzt. Woehenschr., v. 40 (20), p. (6): Agamospirura.— U. S. S. R.—Reported for: #413 Felis (catus [dom.]).

†458. Spiroptera ¹, pp. 147, 465, 624.

leonis Rud., 1809a [Strongylus ¹]:

Spiroptera ¹.—Reported for: #413

Felis (leo t. h.).

tigridis Rud., 1809a [Strongylus]: Spiroptera —Reported for: #413 Felis (tigris t. h.).

459R. Rietularia, pp. 467, 624.

affinis Jaegerskiöld, 1904: Rictularia.—Cairo t, Egypt.—Reported for: #413 Felis (eatus); #479 Canis (aureus, species (jackal)); #485 Vulpes (vulpes, vulpes atlantico, vulpes nilotica s. nilotica t. h.).

cahirensis Jaegers., 1904: Rietularia.—Cairo ^t, Egypt.—Reported for: #413 Felis (eatus t. h.); #438 Viverricula (malaccensis); #479 Canis (azarae, familiaris). Continued in later bulletins. Vectors: reptiles.

maedonaldi e, p. 624: Rictularia.— Reported for: #433 Genetta (species).

mjöbergi Baylis, 1928, Ann. Mag. Nat. Hist., ser. 10, v. 1, May, 608-611, figs. 2-3: Rictularia.— Mt. Penrissen, Sarawak t.—Reported for: #428 Aretictis (binturong t. h.).

plagiostoma, p. 625, 817: Rictularia.— Reported for: #427 Paradoxurus (hermaphroditus, larvatus); #485 Vulpes (vulpes).

proni Seurat, 1915: Rictularia.—
Bordj-Menaiel ^t, N. Africa.—Reported for: #464 Herpestes (ichneumon t. h.). Continued in later bulletins.

*splendida Hall, 1913, 73: Rictularia.—Colorado t, U. S. A.— Reported for: #479 Canis (nebracensis t. h.).

species Baylis & Daubney, 1922, Mem. Ind. Mus., v. 7 (4), 338: Rictularia.—Calcutta, India.—Reported for: #427 Paradoxurus (hermaphroditus bondar).

459t. SEURATIDAE, p. 467. See Seuratum.

- Seuratum Hall, 1916a, tod. tacapense.—<459t SEURATIDAE, SEU-RATINAE. See Yorke & Maplestone, 1926a, 349.
 - tacapense Seur., 1915 [Ophiost.]:

 Seuratum.—Matmata , S. Tunis.—

 Reported for: \$540 Ictonyx (libyca,

 zorilla). Continued in later bulletins; Ctenodactylus (gundi t. h.).

†464. Thelazia. pp. 148, 149, 468. Cf. †463*m*.

*californicusis Price, 1930, J. Parasitol., v. 17 (2), Dec., 112–113:

Thelazia.—California t.—Reported for: #479 Cauis (familiaris t. h.).

[†]callipaeda, pp. 149, 468: Thelazia; Th. (Pericyema [†], tod.).—Punjab [†], India.—Reported for: #413 Felis (catus [dom.]); #479 Canis (familiaris [†]t. h.). Continued in later bulletins.

[†circumocularis, p. 149: Filaria — Reported for: #479 Canis (familiaris).]

Nat. Hist., ser. 9, v. 6, 288-291, figs. 5-7: Thelazia.—East Africa*.—Reported for: #455 Mungos (mungo s. fasciatus ° t. h.).

tacrymalis Gurlt, 1831a [Filaria]: Thelazia: Spiroptera l.—Reported for: #479 Canis (familiaris); #521 Martes (foina). Continued in later bulletins; ungulates t. h.

[† palpebralis h [p. 142] of Stuckey, 1917: Filaria l.—So. circumocularis.—Reported for: #479 Canis (familiaris).]

species Wenyon, 1930, Trans. Roy. Soc. Trop. Med. & Hyg., v. 24 (1), June, 6: Thelazia.—Reported for: #479 Canis (familiaris).

466C. **G**ongylonema, pp. 148, 468. Cf. †462

contortum ¹ · Mol., 1860c (not Rud., 1819a). ursi renamed: Gongylonema. Spiropt. ¹ - Reported for: #576 t Irsus (arctos t. h.).

ursi Duj., 1845a, for ursi-arcti: Gongylonema.—Reported for: #576 Ursus (arctos t. h.).

[ursi-arcti Rud., 1819a: Spiroptera*.— Reported for: #576 t'rsus (arctos t-h.).] 4686'. Streptopharagus, p. 469.

numidicus Senrat, 1917: Streptopharagus.—S. Tunis ¹.— Reported for: #413 Felis (maniculata); #483 Fennecus (ecrdo so. zerda t. h.).

468e. Spirura, pp. 470, 817.

[gastrophila * [p. 817] Mueller, 1894a: Filaria !.—Europe.—So. rytipleurites, fide Yorke & Maplestone, 1926a, 294.—Some confusion in regard to hosts; see gastrophila d of Scurat, rothschildi and rytipleurites.—Reported for: #413 Felis (catus [dom.] t. h.).]

gastrophila d [p. 817] Mueller of Seurat, 1913: Spirura.—Africa.—So. rothschildi, fide Yorke & Maplestone, 1926a, 294.—Reported for: #464 Herpestes (species (mongoose)); #479 Canis (algericus); #485 Vulpes (vulpes atlantica); #540 Ietonyx (libyca). Continued in later bulletins. Vectors: †1270 Akis (goryi); †1271 Blaps (species, strauchi); †1079 Blatta (orientalis); †1279 Onthophagus (species); Scarabacus (sacer).

gastrophila of —? —Reported for: #464 Hcrpestes (ichneumon); #485 Vulpes (vulpes).

rothschildi, p. 817: Spirura.—Reported for: #485 Vulpcs (vulpes atlantica).

rytipleurites [p. 818] Deslongehamps, 1824p [Filaria]: Spirura.—So. talpae, fide Hall, 1916a, 199.—Syn.gastrophila Mueller, 1894 (not of Seurat).—Reported for: #413 Felis (catus [dom.]); #485 Vulpcs (species). Continued in later bulletins; Blatta (orientalis t. h.).

talpac [p. 818] Gmel., 1790a [Asearis ¹]:

Spirura.—Europe ¹.—Reported for:

#413 Fclis (catus [dom.]); #485

Vulpes (vulpes). Continued in later bulletins.

468*G.* Spirocerca, pp. 470, 625. Syn. Sprirocerca ** 1924.

[annulatus * Sieb., 1848a: Strongy-lus 1.—So. lupi *.—Reported for: #479 Canis (lupus t. h.).]

arctica Petrow, 1927, Ann. Trop. Med. Parasitol., v. 21 (2), July 22, 261-266, figs. 1-3: Spirocsrea.— Tundra [†], Russia.—Reported for: #479 Canis (familiaris); #486 Alopex (lagopus t. h.).

[lupi * Rud., 1809a: Strongylus 1.— So. sanguinolenta.—Reported for: #479 Canis (familiaris, lupus t. h.).]

sanguinolenta, pp. 470, 625, 818 [Spi-Spirocerea; Fil.1; Spirura !.—Berlin t, Germany.—Reported for: #413 Felis (canadensis, catus [dom.], species (misc., wild cat)); #433 Genetta (afra bonapartei so. bonapartei); #464 Herpestes (ichneumon); #476 (primaevus so. dukhunensis); #479 Canis (aureus, familiaris, lupus t. h., species (jackal, pariah dog)); #485 Vulpes (species, vulpes s. vulgaris, vulpes atlantiea). Continued in later bulletins. Vectors: †1270 Akis (goryi); †1079 Blatta (orientalis i); †1291 Canthon (species); Copris (hispanis); †1294 Gcotrupes (douei); Gymnopleurus (sturmi); Searabaeus (sacer, variolosus); Coprophagous beetles.

[species Lewis, 1875f, 268-277, pl. 13, figs. 1-5: Haematozoa.—India.—So. sanguinolenta.—Reported for: #479 Canis (familiaris).]

468f. Cylicospirura, p. 470.

felineus * Chandler, 1925, Ind. J. Med. Res., v. 13 (2), 221–222, figs. 3–6 [Spirocerea]: Cylicospirura.—Calcutta *, India.—So. subaequalis, fide Petrow, 1927, Ann. Trop. Med. Parasitol., v. 21 (2), 265.—Reported for: #413 Felis (catus t. h., ocreata).

[felis-yaguarondi o M.C.V. in Mol., 1860b: Spiroptera of So. subaequalis.—Reported for: #413 Felis (jaguarondi s. yaguarundi).]

subaequalis Mol., 1860b [Spiroptera]:

Cylieospirura t; Spirocerea L.—Brazil t.—Reported for: #413 Fclis

(eoncolor, jaguarondi s. yaguarondi,
leo, maniculata, mellivora, ocreata,
pardus, species, tigris); #415 (Acinonyx (jubatus); #485 Vul pes

(species, vulpes atlantica).

†469. Physaloptera, p. 150. See 470*H*. †469*d*. Chlamydonema, p. 150. See 470 *J*.

†470. Habronema, pp. 150, 470.

chevreuxi Seurat, 1913: Habronema.—
Algeria .—Reported for: #413
Felis (maniculata, nebulosa, ocreata
t. h., pardus antiquorum, species).

grimaldiae Seurat, 1915: Habronema.—Algeria^t.—Reported for: #413 Felis (pardus, pardus antiquorum, species (panther)); #485 Vulpes (vulpes, vulpes atlantica s. atlantica t. h.).

nouveli Seurat, 1915: Habronema.—
Algiers t, Algeria.—Reported for:
#433 Genetta (bonapartei s. afra
bonapartei t. h., species).

470B. Protospirura, p. 470.

*gracilis Cram, 1924, J. Am. Vet. Med. Assoc., v. 65, n. s. v. 18 (3), June, 355–357, figs. 1–3: Protospirura.—Washington, D. C.t.—Reported for: #413 Felis (eatus [dom.]t. h.). Vector †1288 Aphodius (fimetarius).

numidica Seurat, 1914, 344: Protospirura t.—Sétif t, Algeria.—Reported for: #413 Felis (maniculata, ocreata t. h.); #433 Genetta (afra bonapartei so. bonapartei). Continued in later bulletins.

470*H*. Physaloptera, pp. 150, 471, 625. Cf. †469, †469*c*.

anomala Mol., 1860d: Physaloptera.— Mattogrosso, Brazil ^t.—Reported for: #413 Felis (onca t. h.).

brevispiculum Linst., 1906: Physaloptera.—Kandy, Ceylon ^t.—Reported for: #413 Felis (rubiginosa t. h.).

canis Monnig, 1929, 15th Ann. Rep. Direct. Vet. Serv. Union So. Africa, Oct., 329–333, figs. 1–4: Physaloptera.—Pretoria t, S. Africa.—Reported for: #479 Canis (familiaris t. h.).

cesticillata Sons., 1889c: Physaloptera.—Egypt '.—Reported for: #483 Fennecus (species, zerda s. cerdo t. h.).

digitata Schneid., 1866a: Physaloptera.—Brazil.—Reported for: #413 Felis (concolor t. h.).

elegantissima Stossich, 1902c (d, e): Physaloptera.—Eritrea t.—Reported for: #538 Mellivora (eapensis t. h.).

- gemina Linst., 1899b: Physaloptera; Abbreviata.—Egypt t.— Reported for: #413 Felis (eatus [dom.] t. h.).
- maxillaris Mol., 1860d: Physaloptera; Physalopt. (Physalopt.).—Brazil^t.— Reported for: #550 Conepatus (suffocans); #552 Mephitis (cinehe t. h., mephitis); #561 Procyon (eanerivora).
- mephites Solanet, 1909: Physaloptera.—Buenos Aires ^t, Argentina.— Reported for: #550 Conepatus (suffocaus t. h.).
- mydai Baylis, 1926, Sarawak Mus. J., v. 3, pt. 3, (10), 309–312, figs. 4–6: Physaloptera.—Kalabit Co.⁴, Borneo.—Reported for: #533 Mydaus (species (Bornean badger) t. h.).
- paeitae Tubangui, 1925, Phil. J. Sei., v. 28 (1), Sept., 23, pl. 2, figs. 2–5: Physaloptera.—Luzon ^t, Philippine Islands ^t.—Reported for: #413 Felis (eatus [dom.] t. h.).
- papilloradiata Linst., 1899b: Physaloptera.—Persia ^t.—Reported for: #479 Canis (lupus t. h.).
- papillotruneata Mol., 1860d: Physaloptera.—Brazil ^t.—Reported for: #544 Taxidea (taxus). Continued in later bulletins; Myrmeeophaga t. h.
- *rara Hall & Wigdor, 1918, J. Amer. Vet. Med. Assoc., v. 53, n. s. v. 6 (6), 733–744, figs. 1–6: Physaloptera (Physalopt.).—Michigan ^t, U. S. A.—Reported for: #479 Canis (familiaris t. h.).
- semilanceolata Mol., 1860d, 659: Physaloptera; Physalopt. (Physalopt.).— Brazil^t.—Reported for: #563 Nasua (nariea t. li., socialis).
- species Baylis & Daubney, 1922, Mem. Indian Mus., v. 7 (4), Dec., 322: Physaloptera.—India.—Reported for: #485 Vulpes (bengalensis).
- species Milne, 1912, Ind. Med. Gaz., Calcutta, v. 47 (9), Sept., 358: Physaloptera.—Jhansi, India.—Reported for: #413 Felis (species). Continued in later bulletins. Larva in squirrel.

- species Monnig, 1924a, 449: Physaloptera.—Transvaal, S. Africa.—Reported for: #540 Ictonyx (capensis so. zorilla).
- species Schwartz, 1926, Proc. U. S. Nat. Mus., v. 68, Art. 13, No. 2614, 5: Physaloptera.—Larva.—Peking, China.—Reported for: #528 Meles (leptorhynchus so. leueurus).
- species Skrjabin. 1924, Berl. Tierärzt. Wochenschr., v. 40 (20), p. (6): Physaloptera.—U. S. S. R.—Reported for: #413 Felis (eatus [dom.]).
- species Travassos, etc., 1927, Mem. Inst. Oswaldo Cruz, v. 20 (2), 255: *Physaloptera*.—Mattogrosso, Brazil.—Reported for: #563 Nasua (nariea).
- *species Weidman in Fox, 1923, Dis. Wild Mamm. & Birds, 630, 632: Physaloptera.—Philadelphia Zoo, Pennsylvania.—See turgida.—Reported for: #544 Taxidea (taxus).
- terdentata Mol., 1860d: Physaloptera; Physalopt. (Physalopt.).—Brazil ^t.— Reported for: #413 Felis (concolor, pardus, tigrina).
- *torquata Leidy, 1886e: Physaloptera.—America t.—Reported for: #544 Taxidea (taxus s. labradorica t. h.).
- *turgida Rud., 1819a: Physaloptera; Spiropt.¹; Turgida t.—Brazil t.—Reported for: #544 Taxidea (americana so. taxus). Continued in later bulletins; Didelphys (cayopollin t. h.). Also reported for: #35 Theropithecus (gelada).
- vandenbrandeni Gedoelst, 1924, Ann. Soc. Belge Méd. trop., v. 4 (2), Nov., reprint 2-4: Physaloptera.— Leopoldville t, Belgian Congo.— Reported for: #413 Felis (species (wild cat)).
- 4701. Chlamydonema, p. 471. Cf. †469d.
 - felineum * Hegt, 1910: Chlamydonema '.--Batavia '.--So. praeputiale.--Reported for: #413 Felis (eatus [dom.] t. h., ocreata eafra,

pardus); #433 Genetta (ludia); #479 Canis (mesomelas).

malayense Ortlepp, 1922, Proc. Zool. Soc. London, Dcc., 1046-48, fig. 23 [Physaloptera ¹]: Chlamydonema; Physalopt.¹ (Physalopt.).—Reported for: #413 Felis (chaus, species (bush cat, tiger cat, wild cat), temminekii, tigris); #413 Lynx (species); #469 Hyaena (striata ¹).

praeputiale Linst., 1889e [Physalopt.]:
Chlamydonema.—Brazil^t.—Syn. felineum ^s; preputialis ^m.—Reported for: #413 Felis (bengalensis, catus [dom.] t. h., chaus, nebulosa, pardus, pardus suaheliea, species (wild panther), tigrina, tigris, viverrina); #479 Canis (familiaris).

470b2. Hartertia, p. 470.

zorillae Seurat, 1919, Bul. biol.
France & Belgique, v. 52 (4),
353-355, figs. 1-4: Harterlia.—
Algeria t.—Reported for: #540 Ictonyx (libyea t. h.).

†473. Gnathostoma, pp. 151, 472.

americanum Trav., 1925, Sci. Med., v. 3 (7), July 30, 509, 510, 514-517 (4, 5, 9-12), figs. 7-13: Gnathostoma.—Angra dos Reis ^t, Brazil.— Reported for: #413 Felis (tigrina t. h.).

pelecani Chatin, 1874a [Sclerost.]:
Gnathostoma.—Paris Mus.—Reported for: #413 Felis (eatus [dom.]).
Continued in later bulletins; Pelecanus (onocrotalus t. h.).

radula ⁸ Schneid., 1866a [Filaria ¹]:
Gnathostoma.—Philippines ^t.—So.
spinigerum.—Reported for: #427
Paradoxurus (philippinensis t. h.);
#464 Herpestes (griseus).

robustum ^a Dics., 1838a; 1839a [Cheiraeanthus ^s]: Gnathostoma.—Brazil ^t.—So. spinigerum.—Reported for: #413 Felis (catus, concolor t. h., tigris); #479 Canis (familiaris, species (Pariah dog)); #511 Mustela (lutreola).

socialis * Leidy, 1858c [Cheiracan-thus *]: Gnathostoma.—So. spini-gerum, fide Yorke & Maplestone, 1926a, 340.—Reported for: #511 Mustela (lutreola, vison t. h.).

species Braun, 1903a: Gnathostoma.— Calcutta, India.—Reported for: #479 Canis (species (wild dog)).

species Cameron, 1928, J. Helminthol., v. 6 (2), June, 94: Gnathostoma.—London Zoo, from Malay States.—Reported for: #413 Felis (planieeps).

species [p. 472] Chandler, 1927: Gnathostoma.—India.—Reported for: #479 Canis i (familiaris i).

species Houghton, 1913, China Med. J., v. 27 (3), May, 171: *Gnathosto-mum.*—Shanghai, China.—Reported for: #413 Felis (species).

[species Lewis, 1874, 121: Echinorhynchus '.—Calcutta, India.—So. spinigerum.—Reported for: #479 Canis (familiaris, species (Pariah dog)).]

†species [p. 152] Morishita & Faust, 1925: Gnathostoma.—China.—So. spinigerum.—Reported for: #413 Felis (species); #479 Canis (species).

†spinigerum, p. 152: Gnathostoma.—Reported for: #413 Felis (bengalensis, eatus [dom.], eoncolor, nebulosa, pardalis, pardus, silvestris, species (wild cat), tigrina, tigris t. h., viverrina); #479 Canis (familiaris, species (pariah dog)); #427 Paradoxurus (hermaphroditus, philippinensis); #511 Mustela (itatsi, species, vison, vison lutreocephala so. vison mink).

473*D*. **O**slerus, p. 472.

[bronchialis canis dop Rail., 1889g, for canis bronchialis: Strongylus 1.— Reported for: #479 Canis (familiaris).]

[canis bronchialis dop Osler, 1877a: Strongylus l.—Montreal lt, Canada.—Renamed osleri.—Reported for: #479 Canis (familiaris t. h.).]

felis Vogel, 1928, Centralbl. f. Bakt., Orig., v. 109, Dec. 4, 435–438, figs. 10–13: Oslerus.—Hamburg, from S. America ^t.—Reported for: #413 Felis (pardalis t. li.).

*osleri Cobbold, 1879b [Filaria 1]: Oslerus; Pseudalius d.—Canada t.— Syns.: bronchialis canis; canis bronchialis; pulmonalis; tracheobronchialis canis.—Reported for: #479 Canis (familiaris t. h., latrans texensis, species (coyote)).

[pulmonalis d o Linst., 1896c, for eanis bronchialis: Strongylus deanis.—Reported for: #479 Canis (familiaris).]

[tracheo-bronchialis canis do p Fiebiger, 1912, for bronchialis canis: Fil. —Reported for: #479 Canis (familiaris).]

†476q. ANISAKINAE, p. 153.—<hr/>
CHEILIDAE, fide Yorke & Maple-stone, 1926a, 269, 271. See Clocoascaris and †476u Porrocaecum.

— Cloeoascaris Baylis, 1923, Ann. Mag. Nat. Hist., ser. 9, v. 11, 459, tod. spinicollis.— 1476q Anisa-Kinae. See Yorke & Maplestone, 1926a, 283.

spinicollis Baylis, 1923, Ann. Mag. Nat. Hist., ser. 9, v. 11, 459: Cloeoascaris t.—Tanganyika t, E. Africa.—Reported for: #458 Atilax (paludinosus); #499 Lutra (species t. h.).

†476u. Porrocaecum, p. 153.

decipiens Krabbe, 1878a [Ascaris]:

Porrocaecum.—Greenland t.—Reported for: #479 Canis (familiaris).

Continued in later bulletins; seals t. h.

species Cameron, 1928, J. Helminthol., v. 6 (2), June, 94: Porrocaecum.—London Zoo, from Malay States.—Reported for: #413 Felis (planiceps).

†479. Fusaria = Ascaris 1, pp. 155, 473, 625.

*alienata d • Rud. of Leidy, 1851b: Ascaris 1. — Pennsylvania 4. — So. columnaris.—Reported for: #552 Mephitis (einche s. chinga, mephitis s. americana t. h.).

cati h Gmelin, 1790a, 3031 (no. 13), based on Goeze, 1782a, 80, "vesicularum capitis defectu ab asc. felis [no. 12] distincta"; cf. †484 cati: Ascaris 1.—Reported for: #413 Felis (catus [dom.] t. h.).

*columnaris Leidy, 1856b, alienata d Rud. of Leidy, 1851b, renamed: Ascaris defended for: #511 Mustela (erminea, eversmanii, nivalis); #552 Mephitis (cinche s. chinga t. h., mephitis, mesomelas, species).

crenata Schrank, 1790a: Ascaris — Reported for: #413 Felis (catus [dom.]).

dasypodina Baylis, 1922, Ann. Mag. Nat. Hist., ser. 9, v. 9, 497–499, fig. 2: Ascaris —London Zoo, from Paraguay —Reported for: #552 Mephitis (species). Continued in later bulletins; Cabassous (unicinctus t. h.) [Dasypus gymnurus].

gulonis Gmel., 1790a: Ascaris.—Europe t.—Reported for: #521 Martes (foina j); #523 Gulo (gulo j t. h.).

gulonis h Rud., 1810a: Ascaris l.— Europe t.—Reported for: #523 Gulo (arcticus o so. gulo t. h.).

mephitidis Gmel., 1790a: Ascaris ; Fusaria .—Reported for: #552 Με-phitis (species t. h.).

species Braun, 1883b: Ascaris 1.—Germany.—Reported for: #479 Canis (familiaris).

species Onji, 1921, Centralbl. f. Bakt., Orig., v. 86 (6), July 8, 502: Ascaris 1.—Japan.—Reported for: #479 Canis (procyonoides).

species Onji, 1921, Centralbl. f. Bakt. Orig., v. 86 (6), July 8, 503: Ascaris !.—Japan.—Reported for: #528 Meles (species).

species Spaul, 1923, Ann. Mag. Nat. Hist., ser. 9, v. 11, 273: Ascaris 1.— Tanganyika, Africa.—Reported for: #433 Genetta (stuhlmanni i).

*species Stiles & Hassall, 1894e, 340:

Ascaris 1.—District of Columbia.—

Reported for: #413 Felis (pardalis).

*species Stiles & Hassall, 1894e, 340:

Ascaris 1.—District of Columbia.—

Reported for: #413 Felis (rufa).

*species Stiles & Hassall, 1894e, 340: Ascaris¹.—Colorado.—Reported for: #552 Mephitis (mephitica o so. mephitis).

species Weidman in Fox, 1915, 43rd Ann. Rep. Zool. Soc. Phila., Apr. 23, 40: Ascaris 1.—Reported for: #413 Felis (tigris). [species Weidman in Fox, 1923, Dis. Wild Mamm. & Birds, 630: "Ascarids."—Philadelphia Zoo.—Reported for: #413 Felis (leo); #479 Canis (mexicanus); #576 Ursus (species).]

†481. Ascaris r, pp. 155, 473.

tlumbricoides, pp. 155, 473: Ascaris.— Europe t.—Reported for: #479 Canis (familiaris). Continued in later bulletins.

†484. Toxocara, p. 156. Syn. †485 Belascaris Leiper. On account of difference of opinion in reference to the esophagus of the type species canis, there is confusion between Toxocara and Toxascaris; as the type specimens do not seem to be available, this question can best be settled nomenclatorially by referring the ease to the International Commission on Parasitology for decision. There should be a ruling on canis 1782 (syn. marginata o 1802) and cati 1788 (syns.: felis o 1790; mystax o 1800), as these names are in confusion; possibly the most practical course would be to suppress these five specific names entirely.

[alienata * Rud., 1819a: Ascaris 1.— Brazil t.—So.* mystax, fide Stossich, 1896a.—Reported for: #563 Nasua (nasua s. rufa o t. h.,

socialis).]

[anterospiralis * Mol., 1860e: Ascaris 1.—Caiçara t, Brazil.—So. * mystax.—Reported for: #413 Felis (concolor t. h.).]

[†brachyoptera * , p. 156: Ascaris ¹.— Algeeiras ⁺, Spain.—So. mystax, fide Stossich, 1896a.—Reported for: #433 Genetta (genetta t. h.); #563 Nasua (narica).]

†*canis * [p. 156] Werner, 1782a [Lumbrieus]: Toxocara *; Belascaris; Asearis | mystax.—Syns.: marginata * 1802; cati * 1788.—Reported for: #413 Felis (canadensis, catus [dom.], jaguarondi s. yaguarundi, rufa, silvestris, species); #462 Ichneumia (albicauda); #479 Canis (aurcus, azarac, dingo, domesticus sinensis, familiaris t. h., mexicanus, pallipes);

#485 Vulpcs (bengalensis, fulva, species, velox, vulpcs); #486 Alopex (lagopus); #488 Urocyon (cincreoargenteus scottii).

[canis-aurci * Rud., 1819a: Asearis *1.—So. mystax, fide Stossieh, 1896a.—Reported for: #479 Canis (aurcus t. h.).]

[canis [1782] felis * (Gmel., 1790a) Werner of Galli-Val., 1901c: Asearis !.—So. canis, fide Ward, 1903, 223.—Reported for: #413 Felis (catus i or silvestris i); #479 Canis (familiaris).]

[†cati [p. 156] Schrank, 1788a, 8 (no. 29), 92 (footnote r), based on Goeze, 1782a, 79, pl. 1, fig. 5 [not Asc. cati h Gmelin, 1790, see under †479][Ascaris l]: Bclascaris.— Europe t.—Syns.: felis o 1790; mystax o 1800; so.s canis 1782.— Reported for: #413 Felis (catus [dom.] t. h., pardus, silvestris, species (wild cat)); #479 Canis (familiaris); #485 Vulpcs (fulva); #486 Alopex (lagopus).]

[circumflexa* Mol., 1858d: Ascaris .— Padua t, Italy.—So. mystax.—Reported for: #413 Felis (pardus t. h.).]

*crenulata Brems., 1824c, 5 [Ascaris 1]:
Toxocara; Ascaris 1 leptoptera; Belascaris 2.—Reported for: #413 Felis (canadensis, concolor, lco, macroura, onca t. h.).

[†felis ° * [p. 156] Gmelin, 1790a, 3031 (no. 12) based on Goeze, 1782a, 79, pl. 1, figs. 5, 9-13: Ascaris ¹; Ascaris ¹ teres ¹.—So. ° cati 1788 [not 1790], renamed mystax ° 1800; so. * canis 1782.—Reported for: #413 Felis (catus [dom.] t. h., species (misc.)); #479 Canis (familiaris).]

[felis-discoloris * Leidy, 1851a: Ascaris 1.—So. * leptoptera.—Reported for: #413 Felis (concolor s. discolor t. h.).]

[globulus Linst., 1899b: Ascaris | [; Belascaris].—Sunda Ids. —Reported for: #413 Felis (moormensis t. h.).]

[leonis h Vallillo, 1909h: Ascaris h mystax.—Italy h.—Reported for: #413 Felis (lco t. h.).]

tleptoptera *, p. 156 [Asearis 1]: Toxocara: Asearis 1 mystax; Belasearis.

--Berlin', Germany.--Pars so.
mystax and leonina, fide Yorke &
Maplestone, 1926a, 258, 259. Cf.
cati.--Reported for: #413 Felis (coneolor s. discolor, leo t. h., macroura,
mitis, onea, pardalis, tigris).

[lupi Gmel., 1790a: Ascaris.—So. mystax, fide Stossich, 1898, 67.—Reported for: #479 Canis (lupus

t. h.).]

- †marginata ° * [p. 156] Rud., 1802a, 11-12 [eanis 1782 renamed] [Ascaris ¹]: Toxoeara; †486 Toxasearis; Bclasearis *; Fusaria d.—So. ° canis; so. * mystax ° 1800=eati 1788.—Reported for: #413 Fclis (catus [dom.], rufa); #479 Canis (aureus, azarae, familiaris t. h., pallipcs, species (jackal, wild wolf)); #485 Vulpes (bengalensis, fulva, species, vulpes); #486 Alopex (lagopus). Continued in later bulletins.
- [martis h Gmel., 1790a: Ascaris l; Fusaria l.—Berlin l, Europe.—So. mystax.—Reported for: #521 Martes (martes t. h.).]
- masculior Railliet & Henry, 1911: Toxoeara; Belascaris s.—Reported for: #483 Fenneeus (eerdo so. zerda t. h.).
- melis Gedoelst, 1920, C. r. Soc. Biol., v. S3 (28), 1291: Belasearis s; Toxocara.—Mus. Brussels.—Reported for: #528 Meles (species t. h.).
- [mistax m Sons., 1889c, 235, for mystax: Asearis L—Reported for: #479 Canis (aureus, familiaris); #485 Vulpes (vulpes).]
- [mustelarum * Rud., 1819a, 53, martis h 1789 renamed: Ascaris l.—So. mystax.—Reported for: #521 Martes (foina, martes).]
- [myolare Lntz, 1886e: Ascaris !.— Brazil !.—? Misprint for mystax. —Reported for: #413 Fetis (eatus [dom.]); #479 Canis (familiaris).]
- †*mystax °, p. 156 (cati 1788+felis ° 1790 renamed) [Fusaria]: Toxo-eara: Belascaris; Ascaris '.—Europe '.—Syns.: marginata ' so.°

- canis 1782; mistax m, myolare m, nuptax m. So. o cati.—Reported for: #413 Felis (bengalensis, bengalensis minuta, eanadensis, catus [dom.] t. 11., ehaus, eoncolor, eoncolor eouguar, leo, lupus, lynx, maniculata, melas, nebulosa, pardalis, pardochroa, pardus, planiceps, rufa, rufa texcnsis, serval, silvestris, species (misc., wild cat), tigris, viverrina); #415 Aeinouyx (jubatus); #433 Genetta (genetta); #462 Iehneumia (albicauda); #473 Lyeaon (pictus); #479 Canis (aureus, azarae, familiaris, lupus); #485 Vulpes (vulpes); #486 Alopex (lagopus); #521 Martes (foina, martes); #563 Nasua (nariea, rufa so. nasua, socialis).
- [species Glaue, 1910: Ascaris¹.— Three species.—Reported for: #413 Felis (melas, pardochroa, serval).]
- [*species Hall, 1912, Colorado Coll. Publicat., Sci. ser., v. 12 (10), 347: Belascaris *. Colorado. Three species reported for: #413 Felis (baileyi, eatus [dom.]); #479 Canis (nebracensis).]
- *species Hall, 1912, Colorado Coll. Publicat., Sci. ser., v. 12 (10), 354: Toxocara.—Colorado.—Two species reported for: #413 Felis (catus [dom.]); #479 Canis (familiaris).
- [species Henry & Joyeux, 1920, Bul. Soc. Path. exot., v. 13 (3), 181: Belascaris *.—Kouroussa, Upper French Guinea.—Reported for: #413 Felis (scrval).]
- [†trieuspidata *, p. 156: Ascaris †.— Reported for: #479 Canis (familiaris).]
- [triquetra * Schrank, 1790a [Ascaris 1]: [Belasearis; *] Fusaria.—So. vulpis 1789.—Reported for: #479 Canis (familiaris); #485 Vulpes (vulpes t.h.).]
- *vulpis Froelieh, 1789a [Ascaris 1]:

 Toxocara; Belasearis *.— Cf. teres 1
 [vulpis] Goeze.—Reported for: #479
 Canis (familiaris, lupus); #485
 Vulpes (vulpes t. li.).
- [vulpis "Goeze", 1782a of Rud., 1809a, 139; Asearis teres —So.

triquetra.—Reported for: #485 Vulpes (vulpes t. h.).]

[†wcrneri °, p. 156 (canis Werner, 1782, renamed): Ascaris ¹; Fusaria.—Reported for: #479 Canis (familiaris t. li.).]

†485. Belasearis, pp. 154, 156. Cf †476l'. So. †484 Toxocara, q. v.

†486. Toxasearis, pp. 154, 156. Cf $^{\dagger}476m'$.

[†alata *, p. 156: Asearis † .—So. ? limbata, or so. ? † 485 mystax.— Reported for: #479 Canis (familiaris).]

[†caniculae^s, p. 156: Ascaris [†].—So. limbata.—Syns.: caniculi, canikuli.—Reported for: #479 Canis (familiaris t. h.).]

†canis d [p. 156] Werner of Glaue, 1909: Toxascaris; Ascaris l.—So. limbata.—Reported for: #479 Canis (familiaris, mexicanus).

[canis-lagopodis * Viborg, 1795 [nv]: Asearis !.—So.? limbata, or ? mystax.—Reported for: #486 Alopea (lagopus t. h.).]

[†felis °, p. 156: Ascaris ¹.—So.* limbata. See note, regarding eonfusion, under paragraph †484.—Reported for: #413 Felis (catus [dom.]); #479 Canis (familiaris).]

leonina Linst., 1902a [Asearis 1]:

Toxascaris.—Breslau t.—Reported for: #413 Felis (bengalensis, catus [dom.], concolor, lco t. h., pardus, rufa, rufa texensis, serval, tigris, uncia, viverrina); #415 Acinonyx (jubatus); #473 Lycaon (pictus); #479 Canis (dingo, familiaris, latrans. species); #485 Vulpes (bengalensis).

†limbata *, p. 156: Toxascaris.—Alfort *, France.—So. lconina, fide Yorke & Maplestone, 1926a, 260; syn. marginata d.—Reported for #473 Lycaon (pictus); #479 Canis (aureus, familiaris, species); #485 Vulpes (fulva); #486 Alopex (lagopus).

†marginata de, p. 156: Toxascaris — So. limbata.—Reported for #479 Canis (familiaris). †microptera, p. 156: Toxascaris; Asc. marginata.—Berlin *, Germany.—Cf. mystax and leonina.—Reported for: #479 Canis (lupus t. h.).

|tigridis Gmcl., 1790a [Asearis]: | Fusaria | .—Reported for: #413 Fe-

lis (tigris t. h.).]

*transfuga Rud., 1819a [Ascaris 1]:
Toxascaris.—Reported for: #570
Ailurus (fulgens); #573 Helarctos
(malayanus); #574 Melursus (labiatus so. ursinus); #575 Thalarctos
(maritimus); #576 Ursus (americanus, arctos t. h., arctos beringianus, horribilis, pruinosus, species, syriacus, torquatus o so. tibetanus).

[transfusa ** Par., 1896c, 5, for transfuga: Ascaris 1.—Reported for: #573 Helarctos (malayanus); #576 Ursus (arctos).]

†487. Lagochilasearis, p. 156.

major Leiper, 1910: Lagochilascaris.—Kilimanjaro ^t, E. Africa.— Reported for: #413 Felis (leo, leo sabakiensis t. h.).

†minor, p. 156: Lagochilascaris.— Reported for: #413 Felis (leo, nebulosa).

†488N. Heterakis, pp. 158, 473.

papillosa * Bloch, 1782a [Asearis 1]:

Heterakis 1; Fusaria 1.—Cf. vesicutaris.—Reported for: #413 Felis (catus [dom.]). Continued in later bulletins; bustard t. h.

†488A'1. Numidica, pp. 159, 474.

numidica Seurat, 1915 [Allodapa 1]:

Numidica t. — Blida t. Algeria. —

Reported for: #485 Vulpes (species, vulpes atlantica t. h.).

†488g. Passalurus, pp. 157, 159. Cf. †488J'.

ambiguus Rud., 1819a [Oxyuris 1]:

Passolurus.—Reported for: #479

Canis (familiaris). Continued in later bulletins; Lepus 1 t. h.

488 w4. Oxynema, pp. 159, 474. Cf. †488 Y.

crassispiculum Sons., 1889c [Heterakis 1]: Oxynema; Subulura 1 (Oxynema); Allodapa 1.—Egypt 1.—Reported for: #479 Canis (vulpecula); #480 Otocyon (megalotis);

#483 Fennecus (famelicus, zerda s. cerdo t. h.); #485 Vulpes (species, vulpes aegyptiaca, vulpes atlantica).

rcetum* Linst., 1899b: Oxynema; Subulura¹ (Oxynema).— Egypt t.—So. crassispieulum.—Reported for: #479 Canis (vulpecula); #480 Otocyon (megalotis); #483 Fenneeus (famelicus, zerda); #485 Vulpes (vulpes aegyptiaea).

488*W*7. Subulura, pp. 159, 474. Cf. †488.4'.

distans, p. 474: Subulura.—Reported for: #413 Felis (rufa texensis).

loveridgei Baylis, 1920, Ann. Mag. Nat. Hist., ser. 9, v. 6, Sept., 286-288, fig. 4: Subulura.—Morogoro j, E. Africa t.—Reported for: #455 Mungos (mungo s. fasciatus t. h.).

sehcbeni Linst., 1909 [Heterakis]: Subulura.—S. W. Africa t.—Reported for: #450 Cynictis (penicillata t. h.).

491A. **O**xyuris ¹, pp. 160, 475. Cf †490.

alata Rud., 1819a: Oxyuris —Reported for: #528 Meles (meles meles s. taxus o.t. h.).

paradoxa Mol., 1858d: Oxyuris ¹.— Padua ¹, Italy.—Reported for: #511 Mustela (communis ² so. putorius t. h.).

†492. Enterobius, pp. 157, 159, 160, 475. Cf. †488f, †488F'.

†*vermicularis, pp. 160, 475: Enterobius.—Reported for: #479 Canis (familiaris).

†494. Syphacia, pp. 160, 476.

†obvelata, p. 161 [Ascaris 1]: Syphaeia; Oxyuris 1.—Reported for: #464 Herpestes (ichneumon); #511 Mustela (vulgaris so. nivalis). Continued in later bulletins; Mus (museulus t. h.).

494*A*. Wellcomea °, pp. 157, 159, 476. Cf. \dagger 488p', \dagger 488U'.

*compar Leidy, 1856b [Oxyuris]: Wellcomia. — Philadelphiat, Penn. —Reported for: #413 Fclis (catus [dom.] t. h.); #479 Canis (familiaris).

†495. NEMATODA, miscellaneous, of uncertain position. See *Liorhyn-chus*.

 Liorhynchus Rud., 1801a, type 'truncatus.—Pars so. 459p2 Spiniteetus, fide Yorke & Maplestone, 1926a, 348.

[cati-feri Rudolphi, 1819a, 710-711: Dubium.—Vienna Museum.—Reported for: #413 Felis (silvestris).]

species i Rud., 1819a, 710-711, 722 [Dubium]: Liorhynchus.—Vienna Museum.—See eati-feri.—Reported for: #413 Felis (silvestris).

cruneatus Rud., 1793a [Ascaris]: Liorhynehus.—"Indeterminable species."—Europe ^t.—Reported for: #528 Mcles (mcles meles t. h.). Continued in later bulletins.

†501. ACANTHOCEPHALA, pp. 162, 477, 625, 820.

†5018. Centrorhynchus, p. 162.

aluconis Mueller, 1780 [Echinor.]:

Centrorhynchus; Chentrosoma 1.—

Reported for: #413 Felis (eatus [dom.]). Continued in later bulletins; Strix (alueo t. h.). Larva in amphibia and reptiles.

Vienna t.—So. buteonis, fide Porta, 1908.—Reported for: #485 Vulpes (vulpes).]

buteonis p. 821 [Echinor.]: Centrorhynchus; Chentrosoma —Reported for: #485 Vulpes (vulpes). Continued in later bulletins; Buteo t. h.

erraticus Chandler, 1925, Ind. J. Med. Res., v. 13 (2), 222–223, pl. 6, figs. 7–8: Centrorhynchus.—Calcutta ^t, India.—Reported for: #413 Felis (eatus [dom.] t. h.).

statsinis Fukui, 1929, Annotat. Zool. Jap., Tokyo, v. 12 (1), 255–257, figs. 1–7: Centrorhynchus.—Japan t.—Reported for: #511 Mustela (itatsi t. h.).

ninnii Stoss., 1891d (c) [Echinor.]:
Centrorhynchus; Chentrosoma.—
Venice t, Italy.—Reported for:
#511 Mustela (nivalis s. vulgaris
t. h., putorius).

species Kostylew, 1926, Zool. Anz., v. 68 (9/10), Oct., 268: Centrorhynchus. — Armenia. — Reported for: #413 Felis (catus [dom.]).

†501m. Echinopardalis, p. 163.

[campanulatus o Dies., 1851a, pardalis renamed: Echinor. 1—Brazil t.—Reported for: #413 Felis (concolor, mellivora, mitis, onca, pardalis, species, tigrina).]

[ovatus h s Leidy, 1850b: Echinor. — So. pardalis.—Reported for: #413 Felis (pardus, pardus leopardus s.

lcopardus t. h.).]

- pardalis Westrumb, 1821a [Echinorhynchus]: Echinopardalis.—Brazil t.—Reported for: #413 Felis (catus, chibigouazou, concolor, geoffroyi, mellivora, mitis, onca, pardalis t. h., pardus, tigrina).
- †501o. Oncicola, pp. 163, 166. Cf. †501u'.
 - *canis Kaupp, 1909 [Echinorhynchus 1]: Oncicola.—Texas *.—Reported for: #413 Felis (catus [dom.]); #479 Canis (aureus, familiaris t. h., latrans texensis, species (coyote)). Continued in later bulletins.
 - oncicola v. Ihering, 1902a [Echinor.¹]:
 Oncicola.—Bahurû, S. Paulo ¹.—
 Reported for: #413 Felis (chibigouazou, jaguarondi s. yaguarundi, onca t. h., pardus).
 - [*species Ward, 1897, 174: Echinorhynchus.—Nebraska.—So. canis, fide Van Cleave, 1920, J. Parasitol., 91.—Reported for: #479 Canis (familiaris).]
- †**501**p. **Prosthenorchis**, pp. 163, 477.
 - elcgans, p. 477: Prosthenorchis.—
 Brazil ¹.—Reported for: #525 Tayra (barbara); #550 Conepatus (suffocans).
 - crinacci, p. 820: Prosthenorchis.— Europe '.—Reported for: #511 Mustela (putorius, vulgaris so. nivalis). Continued in later bulletins.
 - ingens * Linst., 1879b [Echinor.]:

 Prosthenorchis.—So. †508 hirudinaccus, fide Porta, 1908.—Reported for: #561 Procyon (lotor t. h.).

- lühei Trav., 1917, Mem. Inst. Oswaldo Cruz, v. 9 (1), 20 (18), 45-46.
 (43-44), figs. 44, 56a-b, 85, 92a: Prostheworchis.—Brazil t.—Syns.: luehi m, luhei m.—Reported for: #563 Nasua (narica t. h.).
- [mustelac * Rud., 1819a: Echinor. So. napaeformis.—Reported for: #511 Mustvla (nivalis s. vulgaris t. h.).]
- napacformis °, p. 820 (crinacei 1793-renamed) [Echinor.]: Prosthenor-chis.—Reported for: #511 Mustela (nivalis s. vulgaris). Continued in later bulletins.
- pachyacanthus Sons., 1889c [Echinor.]: Prosthenorchis.—Egypt t.—Reported for: #413 Felis (lynx); #479 Canis (aureus); #483 Fennecus (cerdo so. zerda).
- spirula, pp. 477, 821 [Echinor.];

 Prosthenorchis: Gigantor. Brazil '.—Reported for: #413 Felis (lynx); #479 Canis (aurcus); #483

 Fennecus (cerdo so. zerda); #561

 Procyon (lotor); #563 Nasua (narica, socialis).

†501s. Corynosoma, p. 163.

- semerma Forssell, 1904 [Echinor.]:
 Corynosoma.—So. strumosum, fidePorta, 1908, 271.—Reported for:
 #511 Mustela (putorius). Continued in later bulletins; Phoca
 (foetida t. h.). Larva in Gadus
 (callarias).
- species Skrjabin, 1924, Berl. Tierärzt. Wochensehr., v. 40 (20), p. (6): Corynosoma.—U. S. S. R.—Reported for: #413 Felis (catus [dom.]).
- strumosum Rud., 1802a [Echinor.]:
 Corynosoma ^t.—Reported for: #413
 Felis (catus [dom.], species (misc.));
 #511 Mustela (nivalis, putorius).
 Continued in later bulletins; Phoca
 (vitulina t. h.). Larva in fishes.
- [ventricosus * Rud., 1809a: Echinor.¹—So. strumosum, fide Luche, 1911a, 37.—Reported for: #413
 Felis (cotus [dom.]); #511 Mustcla (putorius t. h., vulgaris so. nivalis).]
- †502. Echinorhynchus ¹, pp. 166, 477. depressus Nitzsch in Gieb., 1866: Echinorhynchus ¹.—Germany ¹.—Reported for: #521 Martes (foina t. h.).

pardi Huxley [nv]; v. Ihering, 1902a: Echinorhynchus.—Reported for: #413 Fclis (pardus, species (misc.)).

putorii (abdominalis ^p) Mol., 1858: Echinorhynchus ¹.—Padua ^t, Italy.—Reported for: #511 Mustela (communis ^o so. putorius t. h.).

species André, 1917, Rev. suisse Zool., v. 25 (10), 176: Echinorhynchus. — Rhone. — Reported for: #499 Lutra (lutra).

species Braun, 1893f: Echinorhynchus¹.—Königsberg, Germany.— Reported for: #413 Fclis (catus [dom.], species (misc.)).

species Bremser, 1811a, 26: Echinorhynchus ¹.—Reported for: #511 Mustela (putorius). Continued in later bulletins.

species Cobbold, 1866b, 13: Echinorhynchus 1.—Reported for: #568 Potos (caudivolvula).

species Parona, 1894 σ , 251: Echinorhynchus 1.—Rome, Italy.—Reported for: #511 Putorius (vulgaris).

species Wedl, 1861a, 236: Echinorhynchus !.—Cairo, Egypt.—Reported for: #511 Mustela (vulgaris so. nivalis).

†505. Moniliformis, pp. 163, 165, 166, 167. Cf. †501a, †501l', †501 v_2 .

[belgicus * Railliet, 1919, Rec. Méd. vét., Paris, 187, 189, canis h 1914 renamed: Echinorhynchus h.—Ghent h, Belgium.—So.? moniliformis, fide Kostylew, 1926, Zool. Anz., 265.—Reported for: #479 Canis (familiaris t. h.).]

[canis b o Porta, 1914, Zool. Anz., v. 44 (11), July 7, 484-485, fig. 2 [not Kaupp, 1909]: Echinorhynchus l.—Ghent t, Belgium.—Renamed belgicus.—Reported for: #479 Canis (familiaris t. h.).]

[grassii * Rail., 1893a: Echinorhynchus 1.—Sicily t. — So. moniliformis.—Reported for: #479 Canis (familiaris t. h.).]

†moniliformis, pp. 167, 821: Moniliformis.—Reported for: #413 Felis (catus [dom.]); #479 Canis (familiaris); #511 Mustcha (putorius).

Continued in later bulletins. Vectors, add: †1271 Blaps (gigas); †1079 Blatta (orientalis).

†508. Macracanthorhynchus, pp. 163, 165, 166, 167, 477. Cf. †501l, †501r', †501 j_2 .

catulinus Kostylew, 1927, Centralbl.
f. Bakt. Orig., v. 103 (4-5), Aug. 5,
296-300, figs. 1-5; Macracanthorhynchus.— Turkestan t.— Reported for: #479 Canis (familiaris
t. h.).

[†gigas s, p. 167: Echinor. — So. hirudinaccus.—Reported for: #469 Ilyaena (striata). Continued in later bulletins; Sus (scrofa dom. t. h.).]

thirudinaccus, pp. 167, 477: Macracanthorhynchus.—Reported for: #413 Felis (lynx); #469 Hyaena (hyaena, striata); #479 Canis (aureus, familiaris); #483 Fennecus (cerdo so. zerda); #561 Procyon (lotor); #563 Nasua (narica, socia-Continued in later bullelis). MelolonthaVectors, add: tins. (vulgaris, Europe); Phyllophaga (rugosa exp., vehemens exp., N. America); Xyloryctcs (sotyrus exp., N. America).

†hirundinaccus d, pp. 167, 477: Macraeanthorhynchus; Mireaeanthorhynchus m.—Reported for: #479 Canis (familiaris).

†**540**. *IHRUDINEA*, pp. 175, 478.

†544. HIRUDINIDAE, p. 176.

†547. Limnatis, p. 177.

†nilotica, p. 178: Limnatis.—Reported for: #479 Canis (familiaris).

†**550**. Haemadipsidae, p. 178.

†552. Haemadipsa, p. 179.

†japonica, p. 179: Hacmadipsa; H. zcylanica.—Japan.—Reported for: #479 Canis (familiaris).

†taiwana, p. 179: Haemadipsa japonica.—Formosa.—Reported for: #479 Canis (familiaris).

†zeylanica, p. 179: Hacmadipsa.— Reported for: #479 Canis (familiaris).

†**729**–†**996**. *ARACHNIDA*¹⁵, pp. 229, 478, 625, 822.

†**791**. *LINGUATULIDA*, pp. 239, 478, 625, 822.

¹⁴ The cross reference to the ARACHNIDA has been prepared by Eugenia Cuvillier

†792. LINGUATULIDAE, pp. 239, 479, 822. species ^j Bequaert, 1930, African Republic Liberia, etc., Harvard, v. 2, 798: genus ^j.—Congo.—Reported for #413 Felis (pardus); #433 Genetta (stuhlmanni).

†796. Armillifer, pp. 240, 479, 822.

[aonycis * Macalister, 1875, Proc. R. Irish Aead. 2, v. 2 (1, for Jan.) Science, 66: Pentast.¹; Porocephalus ¹.—River Indus ¹.—So. †moniliformis, fide Sambon, 1922, 425.—Reported for: #495 Micraonyx (cinerca, leptonyx [cinerca], mayoii t. h.); #499 Lutra (nair).]

tarmillatus, pp. 240, 479, 822: Armillifer.—Africa L.—Reported for: #413 Fclis (catus [dom.], leo, pardus, serval, species); #415 Acinonyx (guttatus so. jubatus); #433 Genetta (genetta, pardina, senegalensis, species); #455 Mungos (fasciatus so. mungo); #456 Crossarchus (obscurus); #458 Atilax (paludinosus); #462 Iehneumia (albicauda); #464 Herpestes (cafra); #466 Proteles (cristatus); #479 Canis (familiaris). Continued in later bulletins.

heymonsi Sambon, 1922, J. Trop. Mcd. Hyg., v. 25 (24), Dec. 15, 417: Armillifer moniliformis.—
Malay ^t; Los Baños.—Reported for: #427 Paradoxurus (philippinensis).

†moniliformis, pp. 241, 479: Armillifer.—Asia ^t.—Reported for: #413 Felis (pardus, planieeps, tigris, viverrina); #438 Viverricula (indiea, malaccensis); #466 Proteles (cristatus ⁱ); #479 Canis (familiaris); #499 Lutra (nair). Continued in later bulletins.

[protelis * Hoyle, 1883a, 219-222, figs. 1-3: Pentast. London zoo.—So. †armillatus, fide Sambon, 1922.—Reported for: #466 Proteles (eristatus t. h.).

[wedlii * Cobbold, 1866b, 23: Pentastoma 1.—Museum, London.—So. † moniliformis, fide Sambon, 1922.—Reported for: #413 Felis (planiceps t. li.).]

†798. Porocephalus, pp. 241, 479, 625, 822.

† crotali, pp. 241, 625: Porocephalus.—Syn. proboseidea °.—Reported for: #413 Fclis (leo, pardus); #561 Procyon (canerivorus). Continued in later bulletins; Crotalus (durissus t. h.).

[proboscideum ° Rudolphi, 1814a, 106-107, crotali renamed: Pentastoma¹; Pentastomum¹.—Reported for: #479 Canis (familiaris exp.). Continued in later bulletins; Crotalus (durissus t. h.).]

[*subeylindricum *, pp. 479, 625: Pentastomum 1.—Brazil t, S. Ameriea.—So.†erotali, fide Sambon, 1922, p. 197.—Reported for: #552 Mephitis (mephitis); #561 Proeyon (eancrivorus). Continued in later bulletins.]

†795a. Kiricephalus, p. 240.

pattoni Stephens, 1908a, 553-554, fig. 3 [Porocephalus ¹]: Kiriecphalus.— China, India ¹ ˙ ˙.—Reported for: #413 Felis (catus). Continued in later bulletins; Zamenis (mueosus t. h.).

†800. Linguatula, pp. 241, 479, 822. Syn. Linguatella ^m 1823.

denticulata^s Rudolphi, 1805a, 42: Linguatula; Pentast.¹; Polystoma ¹.—So. †serrata, p. 242.— Reported for: #479 Canis (familiaris); #485 Vulpes (species). Continued in later bulletins.

lanccolata h s Rud., 1805a, 41-43 [Taenia l]: Linguatula; Prionoderma.—So. †scrrata.—Reported for: #479 Canis (familiaris). Continued in later bulletins.

nuttalli Sambon, 1922, J. Trop. Med.
Hyg., v. 25, Dec. 15, 415, 421, 425:
Linguatula.—Kadjiado River ^t, B.
E. Africa.—Reported for: #413
Felis (leo t. h.). Continued in later bulletins.

recurvata Dies., 1850a, 610 [Pentastoma]: Linguatula.—Brazil .—
Reported for: #413 Felis (onea t. h.). Continued in later bulletins.

- †rhinaria *, p. 241 [Taenia †]: Linguatula; Cochlus †.—So. †serrata.—
 Reported for: #413 Felis (catus [dom.], lco); #479 Canis (familiaris, lupus); #485 Vulpes (species).
 Continued in later bulletins.
- †*serrata, pp. 242, 479, 822: Linguatula: Pentastoma °; Polystoma.—
 Reported for: #413 Felis (catus [dom.], onea, silvestris); #479 Canis (familiaris, lupus); #485 Vulpes (species, vulpes). Continued in later bulletins; "Hase" t. h.
- †tacnioides °, p. 242: Linguatula.—So. †scrrata. Syn. taenoides m 1840.—Reported for: #413 Felis (onca, species); #479 Canis (familiaris, lupus); #485 Vulpcs (vulpes). Continued in later bulletins.
- †852. *ACARINA*, pp. 249, 482, 626, 822.
- †854. DEMODICIDAE, p. 249.
- †855. Demodex, pp. 249, 482, 626, 822. In hair follicles.
 - caninus * Mégnin, 1877p, 111-112, figs. 1-8: Demodex folliculorum.— [Europe t.—] So. canis.—Reported for: #479 Canis (familiaris t. h.).
 - canis Leydig, 1859a, 345, pl. 13, figs. 4-5: Demodex folliculorum.—Reported for: #479 Canis (familiaris).
 - cati Railliet, 1893a, 637: Demodex; D. folliculorum.—Europe ^t.—Reported for: #413 Felis (catus [dom.] t. h.).
 - erinacei p. 822: Demodex.—Reported for: #511 Mustela (species).
 - erminea Hirst, 1919, Stud. Acari Brit. Mus., 32, pl. 8, fig. 34: Demodex.—Exeter ^t, England.— Reported for: #511 Mustela (erminea t. h.).
 - †*folliculorum, pp. 250, 482: Demodex.—Reported for: #479 Canis (familiaris); #485 Vulpes (species). Continued in later bulletins.
 - melesinus Hirst, 1921, Ann. Mag. Nat. Hist., ser. 9, v. 7 (37), Jan., 38-39: Demodex.—Syn. melecinus.—Leicestershire ¹, England.—Reported for: #528 Meles (meles meles syn. taxus t. h.).
- †858. IXODOIDEA, pp. 250, 482, 626. †859. ARGASIDAE, p. 250.

- †861. Argas, pp. 250, 482, 626.—Ext. †vespertilionis, pp. 251, 627: Argas; Argus m.—Reported for: #413 Felis (catus).
- †862. Otobius, p. 251.--Ear.
 - †*megnini, p. 251 [Argas]: Otobius ;
 Ornithodoros; Ornithodoruse.
 Guanajuata .—Reported for: #413
 Felis (catus [dom.], species); #479
 Canis (familiaris).
- †863. Ornithodoros, pp. 251, 482, 627. †marocanus, p. 251: Ornithodoros; Ornithodorus *.—N. Africa.—Reported for: #485 Vulpes (species). Continued in later bulletins.
 - †moubata, p. 251: Ornithodoros.—
 Tampan tick.—S. Africa, Angola. —Reported for: #413 Felis (catus [dom.], species); #479 Canis (familiaris). Continued in later bulletins.
 - †savignyi, p. 251: Ornithodoros.— Reported for: #413 Felis (catus [dom.]); #479 Canis (familiaris). Continued in later bulletins.
- †866. Ixodes, pp. 253, 482, 627, 822.
 - *affinis * Neum., 1899a, 120-121:

 Ixodes.—Costa Rica t.—So. scapularis, fide Nutt. & Warb., 1911a, 156; syn. communis 1899.—Reported for: #413 Felis (pardalis t. h.).
 - *angustus * Neum., 1899a, 111, 136: Ixodes.—Shoshone Falls^t, Idaho.— So. loricatus, fide Nutt. & Warb., 1911a, 266.—Reported for: #413 Felis (catus); #479 Canis (familiaris). Continued in later bulletins; Neotoma (occidentalis t. h.).
 - auricularis Robineau-Desvoidy, 1836, C. r. Acad. Sci., Paris, v. 3, 688 [nomen nudum]: Ixodes.— Reported for: #528 Melcs (meles s. taxus t. h.).
 - australiensis Neum., 1904a, 456, 457, fig. 1: Ixodes.—Australia ^t.—Reported for: #479 Canis (familiaris, species).
 - autumnalis Leach, 1815a, 398:

 Ixodes.—England Leach, 1815a, 398:

 Ixodes.—England Leach, 1815a, 398:

 nus, fide Neum., 1911a, 177.—

 Reported for: #479 Canis (familiaris t. h.).

- tbicornis, p. 253: Ixodes.—"Conehuda".—Reported for: #413 Felis (coneolor, leo, onca t. h.); #479 Canis (aureus); #563 Nasua (narica). Continued in later bulletins.
- *bifurcatus * Neum., 1899a, 111, 122: Ixodes.—Texas *.—So. brunneus, fide Neum., 1901b, 347.—Reported for: #413 Felis (species [wild cat]).
- boliviensis Neum., 1904a, 457–458: Ixodes.—Charuplaya ^t, Bolivia ^t.— Reported for: #477 Icticyon (venaticus).
- *brunneus Koch, 1844a, 232: Ixodes.—
 North America ^t.—Reported for:
 #413 Felis (species). Continued
 in later bulletins.
- *ealifornicus Banks, 1904, Proc. Calif. Acad. Sci., v. 3 (13), Dec. 1, 369, pl. 41, fig. 57: Ixodes.— Claremont ', Calif., N. America.— Reported for: #479 Canis (species); #488 Urocyon i (species). Continued in later bulletins; Toxostoma (crissale t. h.).
- canisuga Johnston, 1850, Hist. Berwick. Nat. Club, v. 2 (7), 371: Ixodes.—Berwickshire^t, England.—Reported for: #479 Canis (familiaris t. h.); #485 Vulpcs (species); #528 Meles (taxus so. melcs). Continued in later bulletins.
- communis * Marx in Neum., 1899a, 120-121: Ixodes.—So. affinis Neum., 1899a, 121; 1901b, 347.—Costa Rica '.—Reported for: #413 Felis (pardalis t. h.); #479 Canis (familiaris). Continued in later bulletins.
- †*cookei *, p. 253: Ixodes: I. hexagonus.—So. Haemaphysalis concinua Koch, fide Neum., 1901b, 347.—Reported for: #413 Felis (catus [dom.]); #479 Canis (familiaris); #485 Vulpes (vulpes vulpes); #511 Mustela (lutreola, putorius, vulgaris, xanthogenys); #552 Mephitis (mephitica so. mephitis, occidentalis); #561 Procyon (lotor). Continued in later bulletins.
- crenulatus * Koch, 1844a, Heft 39, Nov., figs. 5-6, 8-9; 1844, 233; 1847, 22: Ixodcs.—Germany t.— So. hexagonus, fide Neum., 1901b,

- 347.—Reported for: #499 Lutra (lutra s. vulgaris); #528 Meles (melcs melcs s. taxus t. h.).
- †*crueiarius*, p. 253: Ixodes.— N. Y.'—So. †cookei, fide Banks, 1908, 53.—Reported for: #511 Mustela (vison).
- *diversifossus Neum., 1899a, 110, 136-137: Ixodes.—New Mexico t.—Reported for: #561 Proeyon (lotor t. h.). Continued in later bulletins.
- djaronensis Neum., 1907, Wissenseh. Erg. Sehw. Zool. Exp., no. 20 (2), 18-19: Ixodes ugandanus.—Kibonoto^t, Kilimandjaro, G. E. Africa.—Reported for: #433 Genetta (suahelica t. h.). Continued in later bulletins.
- erinaeci * [p. 822] Audouin, 1832: Ixodes.—Reported for: #479 Canis (familiaris); #485 Vulpes (species, vulpes vulpes). Continued in later bulletins.
- crinaceus °, p. 822: Ixodes.—So. hexagonus, fide Neum., 1901b, 347.—Reported for: #479 Canis (familiaris); #485 Vulpes (species).
- fuscipes Koeh, 1844a, 233: Ixodes.— S. America ¹.—Reported for: #413 Felis (pardalis). Continued in later bulletins.
- granulatus, p. 822: Ixodes.—Burma t.—Reported for: #413 Felis (tigris). Continued in later bulletins.
- †*hexagonus, pp. 253, 822: Ixodes; I. hexagonus.—Pars so. cookei.—Reported for: #413 Felis (eatus #479 [dom.],species); (familiaris, lupus, species); #485 Vulpes (species, vulpes); #499 Lutra (lutra); #511 Mustela (erminea, furo, lutreola, nivalis, putorius, species (weasel), vison, vulgaris); #521 Martes (foina, martes); #528 Meles (meles s. taxus); #552 Mephilis (oecidentalis). Continued in later bulletins.
- †holoeyelus, pp. 253, 482: Ixodes.— Reported for: #413 Felis (eatus [dom.], species); #479 Canis (familiaris). Continued in later bulletins.

- howardi, pp. 628, 822: I. pilosus; Ixodes.—South Africa .—Reported for: #413 Felis (eatus [dom.], pardus, species); #433 Genetta (genetta); #479 Canis (fomiliaris t. h.).
- *inehoatus Neum., 1901b, 283-284, 353, 359, 363, 364: Ixodes hexagonus.—Europe; U. S. A.—Reported for: #479 Canis (familiaris, species); #485 Vulpes (species, vulpes); #521 Martes (martes); #528 Meles (meles s. taxus, species); #544 Taxideo (species).
- *kingi Bishopp, 1911, Proc. Biol. Soc. Wash., v. 24, June 23, 201–204, figs. 7–12: Ixodes.—Wyoming t.—Reported for: #479 Canis (familiaris, *species (wolf)); #511 Mustela (species (mink)); #528 Meles (species); #544 Taxidea (taxus t. h.); #552 Mephitis (species). Continued in later bulletins.
- *tongispinosus Neum., 1901b, 283: Ixodes: I. hcxagonus.—Reported for: #413 Felis (eatus [dom.]); #479 Canis (lupus); #485 Vulpes (species, vulpes); #499 Lutra (species); #511 Mustela (putorius, species (weasel), vison, vulgaris i).
- luteus Koch, 1844a, 232; 1847, 21, 102, pl. 20, fig. 75: Ixodes.—S. Africa ^t.—Reported for: #479 Canis (species).
- *marxi Banks, 1908, Tech. Ser., U. S. Dept. Agric., Div. Ent., Bul. 15, June 6, 32, pl. 9, fig. 8: Ixodes.—U. S. A.—Reported for: #485 Vulpes (species); #561 Procyon (lotor). Continued in later bulletins; Seiurus (species t. h.).
- megathyreus ⁶, p. 822: Ixodes.—So. ricinus, fide Neum., 1901b, 348.—Reported for: #479 Canis (familiaris).
- mellinus Robineau, 1836, C. r. Acad. Sei., Paris, v. 3, 688 [nomen nudum]: Ixodes.—Reported for: #528 Meles (meles s. taxus t. h.).
- saairobiensis Nuttall, 1916, Parasitol., v. 8 (3), Jan., 299-300, fig. 4:

 Lindes.—Nairobi ', Brit. E. Africa '.—Reported for: #479 Canis (familiaris t. h.).

- oldi Nuttall, 1913, Parasitol., v. 6 (2), July, 135-136, fig. 3: Ixodes.— Komatendu [†], Sierra Leone [†], W. Afr.—Reported for: #413 Felis (species (bush cat t. h.), pardus).
- ovatus Neum., 1899a, 116-118, figs. 2-3: Ixodes rieinus; Ixodes.—Japan '.—Reported for: #479 Canis (familiaris). Continued in later bulletins; Equus (eaballus t. h.).
- †pilosus, pp. 253, 822: Ixodes.—Reported for: #413 Fetis (capensis hindei, catus [dom.], panthera, pardus, pardus metanotica, species); #437 Viverra (species); #479 Canis (familiaris).
- plumbeus * Dugès, 1834b, 20; 1834d, 33–36, fig. 7: *Ixodes.*—France.— So. *ricinus*, fide Neum., 1901b, 348.—Reported for: #479 *Canis* (familiaris t. h.).
- *pratti Banks, 1908, 27, 28, pl. 4, figs. 1, 3–5: Ixodes.—Reported for: #413 Felis (species); #479 Canis (familiaris).
- †rasus, pp. 253, 823: Ixodes.—Reported for: #413 Felis (copensis hindei, pardus, species); #464 Herpestes (ichneumon); #479 Canis (familiaris). Continued in later bulletins.
- †*rcduvius *, pp. 253, 628, 823: Ixodes.—So. ricinus, pars d so. hexagonus.—Reported for: #413 Felis (eatus [dom.], pardalis, species [wild], species *panther [=eouguar?]); #433 Genetta (species); #479 Canis (familiaris); #485 Vulpes (species, vulpes); #511 Mustela (furo); #528 Meles (species). Continued in later bulletins.
- †ricinus, pp. 253, 628, 823: Ixodes.—
 Reported for: #413 Felis (catus [dom.], eoneolor, onea, pardalis, silvestris, species); #433 Genetta (genetta); #479 Canis (familiaris); #485 Vulpes (species, vulpes); #486 Alopex (lagopus); #488 Uroeyon (cincreoargentatus); #511 Mustela (erminea, furo, putorius, vison); #521 Martes (foina, martes); #528 Mcles (meles meles s. taxus).
- rubidus Neum., 1901b, 282–283, 325, 348, 359, 364: Ixodes.— Guana-

juato ^t, Mexico ^t.—Reported for: #566 Bassariscus (astutus t. h.).

*rugosus Bishopp, 1911, Proc. Biol. Soc. Wash., v. 24, June 23, pp. 197–199, fig. 1: Ixodes cookei.— Tiller, Oregon t.—Reported for: #479 Canis (familiaris t. h.).

†*scapularis, p. 254: Ixodes ricinus; Ixodes.—Reported for: #413 Felis (pardalis); #479 Canis (familioris). Continued in later bulletins.

scapulatus Mégnin, 1880a, 132, 377, or in Robin., 1880, J. Anat. et Physiol.: *Ixodes.*—Reported for: #479 Canis (familiaris). Continued in later bulletins.

*species Henshaw & Birdseye, 1911, Circular 82, Bureau Biol. Survey, Aug. 3, Washington, 22: *Ixodes.*— Bitter Root Valley, Montana.— Reported for: #511 Mustela (arizonensis). Continued in later bulletins.

species Klugkist, 1909, 543: *Ixodes.*—Reported for: #511 *Mustela* (species (weasel)).

species ⁵ Steel, 1919, Proc. Linn. Soc. N. S. Wales, v. 44, p. 93: *Ixodes.*—Near *holocyclus.*—Tweed River, N. S. Wales.—Reported for: #479 Canis (dingo).

spinicoxalis Neum., 1899a, 111, 123-124, fig. 6; 1901b, 325, 361, 364: Ixodes.—Sumatrat.—Reported for: #521 Martes (flavigulat. li.).

*texanus Banks, 1909, Proc. Ent. Soe. Wash., v. 10 (3-4) (for Sept.-Dec., 1908), pp. 172-173, figs. 16-17: Ixodes.—Live Oak County, Texas t.—Near Ixodes hexagonus.—Reported for: #511 Mustela (arizonensis); #521 Martes (caurina origenes, pennanti); #561 Procyon (lotor t. h.). Continued in later bulletins.

†869. Haemaphysalis, pp. 254, 482, 628, 823. Syn. i Alloeeraea i.

anomala Warburton, 1913, Parasitol., v. 6 (2), July, 128, fig. 7: Haemaphysalis cornigera.—Koderma St., India ^t; Chota; Nagpur.—Reported for: #479 Canis (familiaris, species (wolf) t. h.). australis Neum., 1905d, 238: Haemaphysalis leochi.—N. S. Wales t.—So. leachi, fide Nutt. & Warb., 1915a, 460-461.—Reported for: #413 Fclis (tigris). Continued in later bulletins; Equus (caballus t. h.).

birmanioe Supino, 1897a, 236, 251, pl. 13, figs. 17-18: Haemaphysalis.—Burma t.—Reported for: #427 Paradoxurus (larvatus); #479 Canis (familiaris). Continued in later bulletins.

bispinosa Neum., 1897a, 341–342, figs. 7–8: Haemaphysalis.—India, China, Japan.—Possible eonfusion in determinations, see Warburton, 1908, 517.—Reported for: #413 Felis (catus [dom.], leo, ornata, tigris); #427 Paradoxurus (larvatus); #438 Viverricula (malaccensis); #476 Cuon (dukhunensis); #479 Canis (aureus, familiaris, pallipes). Continued in later bulletins. Also for #14 black monkey (India); #41 Silenus (sinicus).

campanulata Warburton, 1908a, 513–514, figs. 5-6: Haemaphysalis.— Mongolia .—Reported for: #479 Canis (familiaris t. h., species (wolf)). Continued in later bulletins.

canestrinii ^e Supino, 1897a, 237, 252, pl. 13, fig. 21 [Opisthodon]: Haemaphysalis.—Burma ^t; Yado ^t.—So. †leachi ^e, fide Neum., 1902, 128.—Reported for: #413 Felis (bengalensis). Continued in later bulletins.

[chelifer * Mégn., 1880a, 132: Ixodes '.—In forest of Fontainebleau '.—So. concinna, fide Nutt.
& Warb., 1915a, 452.—Reported
for: #479 Canis (familiaris).]

choprai Sharif, 1928, Ree. Ind. Mus., Calcutta, v. 30 (3), Oct., pp. 243, 269-270, fig. 19, a-e: Haemaphysalis.—Koderma Station t, India.— Reported for: #479 Canis (species (wolf) t. h.).

concinna, p. 823: Haemaphysalis.—
Poland; France.—Reported for:
#413 Felis (catus [dom.]); #479
Canis (familiaris). Continued in
later bulletins.

- cornigera Neum., 1897a, 350-352, figs. 16-17: Haemaphysalis.—Singapore; Borneo; Sumatra; Asiatic region .—Reported for: #479 Canis (familiaris).
- cuspidata Warburton, 1910, Parasitol., v. 3 (4), Dec., 401-402, figs. 6-7: Haemaphysalis.—Colombo, Ceylon '.—Reported for: #427 Paradoxurus (niger, species); #455 Mungos (mungo '); #464 Herpestes (flavidens). Continued in later bulletins.
- dentipalpis Warburton & Nuttall, 1909, Parasitol., v. 2 (1-2), May-June, 67-68, fig. 14: Haemaphysalis.—Federated Malay States^t.— Reported for: #413 Felis (ehaus); #427 Paradoxurus (species t. h.).
- flava Neum., 1897a, 333-336, 341, 358, fig. 3: Haemaphysalis; H. flava.—Japan ^t; India.—Reported for: #479 Canis (familiaris, species (jackal)); #485 Vulpes (species). Continued in later bulletins.
- formoscnsis Neum., 1913, Suppl. Ent., Berlin, v. 2, June 1, 135: Haemaphysalis.—Formosa t.—Reported for: #479 Canis (familiaris t. h.); #576 Ursus (torquatus). Continued in later bulletins.
- gestroi ⁸ Supino, 1897a, 238, pl. 13, fig. 23 [Opisthodon ⁸]: Haemaphysalis.—Yado, Burma ^t.—So. leachi, fide Nutt. & Warb., 1915, 460.—Reported for: #413 Felis (nebulosa ⁸); #433 Genetta (genetta); #437 Viverra (zibetha).
- hirudo ⁸ L. Koch, 1878a, v. 27, 786: Haemaphysalis.—Japan ^t.—So. II. concinna, fide Nutt. & Warb., 1915a, 452.—Reported for: #479 Canis (familiaris).
- hystrieis Supino, 1897a, 237, 252, pl. 13, figs. 19–20: Haemaphysalis.—Yado t, Burma; Assam.—Reported for: #413 Fclis (tigris); #479 Canis (familiaris); #573 Helarctos (malayanus); #576 Ursus (torquatus). Continued in later bulletins.
- .indica Warb., 1910, Parasitol., v. 3 (4), Dec., 402: Haemaphysalis leachi.—Calcutta ¹, India.—Reported for: #464 Herpestes (mun-

- go); #479 Canis (aureus t. h., familiaris). Continued in later bulletins.
- incrmis Birula, 1895a, 360–361, pl. 2, figs. 7-9: Haemaphysalis.—Caucasus ^t.—Reported for: #485 Vulpes (species). Continued in later bulletins.
- intermedia Warb. & Nutt., 1909, Parasitol., v. 2 (1), May-June, 69-70, fig. 16: Hacmaphysalis bispinosa.—Ceylont, India.—Reported for: #413 Felis (earaeal, catus, chaus affinis, ornata); #469 Hyaena (hyaena); #476 Cuon (dukhuncnsis); #479 Can ispallipes, (familiaris, species (wolf)); #485 Vulpes (species); #576 Ursus (species). Continued in later bulletins.
- kinneari Warb., 1913, Parasitol., v. 6 (2), July, 127–128, fig. 6: Haemaphysalis.—Kadra, India ^t.— Reported for: #413 Felis (tigris t. h.).
- koehi Neum., 1905d, 239: Haemaphysalis eoncinna.—Japan.—So. concinna, fide Nutt. & Warb., 1915a, 452.—Reported for: #479 Canis (familiaris).
- koningsbergeri s Warb. & Nutt., 1909, Parasitol., v. 2 (1-2), May-June, 65-66, figs. 11-12: Haemaphysalis.—Java t.—So. lcachi, fide Nutt. & Warb., 1915a, 460-461.—Reported for: #413 Felis (pardus t. h.).
- †leachi e, pp. 254, 823 [Ixodes 1]: Haemaphysalis; H. leachi; Rhipidostoma.—Egypt t.—Reported for: #413 Felis (bengalensis, capensis hindei, caracal, catus [dom.], chaus, ehausaffinis,leo, leo sabakiensis, leopardalis, macrocelis, nebulosa *, nigripes, pardus, pardus leopardus, pardusmelanotica, pardus suahelica, scrval, species, tigris); #415 Acinonyx (jubatus); #427 Paradoxurus (species); #433 Genetta (felina, genetta, senegalensis, species, suahelica); #435 Civettietis (civetta, civetta orientalis); Viverra (species, zibetha); #448 Suricata (suricatta, tetradac-

tyla); #450 Cynictis (penicillata); #451 Galerella (brunneo-ochracea); #455 Mungos (mungo i); #456 Crossarchus (obscurus); #458 Atilax (paludinosus robustus i); #460A Helogale (varia); #462 Ichneumia (albicauda); #464 Herpestes (cafra, species); #469 Hyaena (crocuta); #476 Cuon (dukhuncnsis); #479 Canis (adustus, anthus), aureus, familiaris. indicus, mcsomelas. species [jackal]); #485 (species); #511 Mustela (furo); #540 Ictoryx (capensis so. zorilla, striatus so. zorilla); #576 Ursus (malayanus, species). Continued in later bulletins.

*leporis o Osborn, 1896a, 261, fig. 154 [Rhipistoma]: Hacmaphysalis; Ixodes 1.—U. S. A. —So. (1915) leporis-palustris.—Reported for: #427 Paradoxurus (species). Continued in later bulletins; Lepus (species t. h.).

†*leporis-palustris, p. 254: Haemaphysalis.—Reported for: #413 Fclis (catus [dom.]). Continued in later bulletins; Lcpus (palustris t. h.).

montgomeryi Nuttall, 1912, Parasitol., v. 5 (1), Feb., 57–59, figs. 7–8: Hacmaphysalis.—Muktesar^t, India.—Reported for: #479 Canis (familiaris). Continued in later bulletins.

neumanni Dönitz, 1905, Sitzungsb. naturf. Freunde Berlin, 127–129: Hacmaphysalis.—Japan t.—Reported for: #479 Canis (familiaris). Continued in later bulletins.

numidiana, p. 823: Haemaphysalis.— Reported for: #511 Mustela (cvcrsmanni).

otophila Schulze, 1918, Sitzungsber.
naturf. Freunde Berlin, 64-66,
figs. 2-5: Haemaphysalis.—Macedonia '.—Reported for: #479 Canis
(familiaris). Continued in later
bulletins.

papuana Thorell, 1882, Ann. Mus. Genova, v. 18, Feb. 4, 62–66, pl. 6, figs. 40–45: Haemaphysalis.—New Guinea '.—Reported for: #413 Felis (pardus, tigris); #479 Canis (species). Continued in later bulletins.

parmata, p. 482: Haemaphysalis.— Cameroon ¹.—Reported for: #413 Felis (catus [dom.]); #479 Canis (familiaris). Continued in later bulletius.

parva Neum., 1908, Notes Leyd.

Mus., v. 30, pp. 89-91, fig. 10:

Haemaphysalis.—Ccylon'; India.—Reported for: #413 Felis

(pardus, species, viverrina); #438

Viverricula (malaccensis); #479

Canis (aureus t. h.). Continued in later bulletins.

†punctata, pp. 254, 823: Haemaphysalis; H. cinnabarina; H. punctata.—
Reported for: #413 Felis (catus [dom.]); #479 Canis (familiaris); #485 Vulpes (species).

spinigera Neum., 1897a, 352–354, fig. 18: Haemaphysalis.—Mahratta L. India.—Reported for: #413 Felis (pardus, tigris); #437 Viverra (species); #576 Ursus (species). Continued in later bulletins.

vidua Warb. & Nntt., 1909, Parasitol., v. 2 (1-2), May-June, 66-67,
fig. 13: Haemaphysalis.—Malay States '.—Reported for: #427 Paradoxurus (species t. h.).

wellingtoni Nutt. & Warb., 1908,.
Proc. Cambridge Philos. Soc., v.
14, pt. 4, 397–398, figs. 9–11: Haemaphysalis.—Sarawak, Borneo ;
Siam.—Reported for: #479 Canis
(familiaris). Continued in later
bulletins; fowl, t. h.

†873. Dermacentor, pp. 254, 629, 823.

†*americanus d, p. 254: Dermacentor.—Reported for: #479 Canis (familiaris). Continued in later bulletins.

†*andersoni, pp. 254, 629: Dermacentor.—Reported for: #413 Felis (uinta); #479 Canis (familiaris, lestes lestes); #511 Mustela (nigripes); #544 Taxidea (taxus); #552 Mephitis (hudsonica). Continued in later bulletins.

atrosignatus Nenni., 1906i, 210-212, fig. 12: Dermacentor.—Type host not given.—Australia '.—Reported for: #479 Canis (familiaris).

†auratus Supino, 1897a, 235, pl. 13, fig. 14: Dermacentor.—Carin Cheba t, Burma, —Reported for: #413.

- Felis (pardus); #574 Mclursus (ursinus); #576 Ursus (species, torquatus so. tibetanus). Continued in later bulletins. Also for #12 Homo.
- *bifurcatus Neum., 1899a, 122 [Ixodes 1]: Dermacentor.—Texas t.—Reported for: #413 Felis (catus [dom.], *species wild cat t. h.]=? rufa texensis]).
- compactus Neum., 1901b, 268-269: Dermacentor.—Sumatra ; Borneo; India.—So. Amb. testudinarium, fide Rob., 1926, 253.—Reported for: #576 Ursus (species).
- t*electus s, p. 254: Dermacentor.— Reported for: #413 Felis (onca); #479 Canis (familiaris). Continued in later bulletins.
- †*occidentalis, p. 254: Dermacentor; D. reticulatus.—California t.—Adults infected with tularaemia.—Reported for: #479 Canis (familiaris). Continued in later bulletins; Bos (taurus t. h.).
- ireticulatus, pp. 254, 629, 823: Dermacentor; Dermatocentor; Cynorhaestes.—Reported for: #479 Canis (familiaris). Continued in later bulletins.
- †*variabilis, p. 254 [Ixodes]: Dermacentor.—Reported for: #413
 Félis (concolor azteca, species);
 #479 Canis (familiaris, latrans, species (wolf), Thos species); #485
 Vulpes (species); #511 Mustela (species); #544 Taxidea (species, taxus); #552 Mephitis (species);
 #561 Procyon (lotor). Continued in later bulletins.
- *varicgatus Marx in Neum., 1897a, 367-370, figs. 22-24: Dermacentor.—U. S. A., Nevada, Nebraska.—Reported for: #413 Felis (catus [dom.]); #479 Canis (familiaris). Continued in later bulletins; Cariacus (species t. h.).
- †*venustus d * [p. 254] pars of Banks, 1907: Dermacentor.—Texas t.— Chiefly so. †andersoni.—Reported for: #413 Felis (species); #479 Canis (familiaris, latrans, lestes, Thos species); #544 Taxidea (species, taxus); #576 Ursus (ame-

- ricanus, arctos, horribilis horribilis). Continued in later bulletins.
- †874. Rhipicentor, pp. 255, 823.
 - †bicornis, p. 255: Rhipicentor.—Reported for: #479 Canis ((Thos) species). Continued in later bulletins.
 - vicinus, p. 823: Rhipicentor.—Pretoria, S. Africa.—Reported for: #479 Canis (familiaris).
- †875. Rhipicephalus. pp. 255, 482, 823.

 †appendiculatus, p. 255: Rhipicephalus.— Cape †, Africa.—Reported for: #413 Felis (catus [dom.]); #473

 Lycaon (pictus); #479 Canis (familiaris). Continued in later bulletins.
 - armatus Pocock, 1900b, June 1, 50, pl. 3, figs. 2 to 2f: Rhipicephalus.—Bularli, W. Somaliland, Africa.—Reported for: #413 Fclis (leo).
 - †bursa, pp. 255, 824: Rhipiccphalus; Eurhipiccphalus.—Probably so. capensis, fide Bedford, 1926, 11.— Reported for: #413 Felis (catus [dom.]); #479 Canis (familiaris). Continued in later bulletins; "cinghiale" t. h.
 - capensis Koch, 1844a, 238: Rhipicephalus.—Cape of Good Hope t.—Reported for: #479 Canis (familiaris). Continued in later bulletins.
 - dugesii s Gervais, 1844b, 237, 242, plumbeus h Dug. renamed [not plumbeus Leach] [Ixodes]: Rhipicephalus.— France t.—So. Rhip. sanguineus Latr., fide Neum., 1901b, 347.—Reported for: #479 Canis (familiaris t. h.). Continued in later bulletins.
 - †evertsi, p. 255; add: fig. 36: Rhipicephalus.—Reported for: #413 Fclis (catus [dom.]); #479 Canis (familiaris).
 - falcatus Neum., 1908, Notes Leyd. Mus., v. 30, pp. 77–79, fig. 4: Rhipicephalus.—Africa —Reported for: #479 Canis (familiaris).
 - thacmaphysaloides Supino in Neum., 1897a, 234-235, 417: Rhipicephalus.—Reported for: #413 Felis (species (leopard), tigris, viverrina); #479 Canis (fam.liaris, species

- (jackal)); #485 Vulpcs (species); #576 Ursus (species). Continued in later bulletins. Also for #12 Homo.
- hilgerti Neum., 1902c, 111–112: Rhipicephalus.—Abyssinia ^t.—Reported for: #479 Canis (variegatus t. h.).
- lunulatus, p. 824: Rhipicephalus.— Reported for: #479 Canis (familiaris). Continued in later bulletins.
- †pulchellus, p. 255 [Dermacentor]: Rhipiccphalus.—Reportedfor:#413 Felis (catus, lco); #469 Hyaena (striata); #479 Canis (familiaris). Continued in later bulletins.
- punctatissimus Gerst., 1873a: Rhipicephalus.—Afrieat.—Reported for: #479 Canis (familiaris).
- †*sanguineus, pp. 255, 824: Rhipice-phalus.—Reported for: #413 Felis (catus [dom.], lco, marmorata, viver-rina); #413 Lynx s (species); #433 Genetta (genetta); #479 Canis (anthus, aureus, familiaris, persicus, species, variegatus); #480 Otocyon (megalotis); #485 Vulpes (leucopus, species, vulpes vulpes); #576 Ursus (species). Continued in later bulletins.
- shipleyi Neum., 1902c, 112–113: Rhipicephalus.—Sudan t.—Reported for: #469 Hyaena (species t. h.).
- †simus, pp. 255, 824: Rhipicephalus.—Reported for: #413 Felis (leo, pardus suahelicus); #433 Genetta (suahelica); #435 Civettictis (civetta orientalis); #473 Lycaon (pictus); #479 Canis (aureus, familiaris).
- species Franchini, 1925, Arch. Schiffsu. Trop.-Hyg., Beiheft. 1, v. 29, 108: Rhipiccphalus; Rhipizephalus °.— Italy.—Reported for: #479 Canis (familiaris).
- *texanus Banks, 1908, Tech. Ser. U. S. Dept. Agric. Bur. Ent., No. 15, 34-35, June 6, pl. 5, figs. 1-4: Rhipicephalus.—Texas t; New Mexico; Mexico.—Reported for: #479 Canis (familiaris). Continued in later bulletins.
- †878. Boophilus Curtice, pp. 255, 482. †*annulatus, pp. 255, 482: Boophi-

- lus.—Reported for: #479 Canis (familiaris). Continued in later bulletins.
- †australis, p. 255: B. annulatus; Boophilus.—N. W. to N. E. Australia '.—Reported for: #479 Canis (familiaris, species (wolf)); #485 Vulpes (species). Continued in later bulletins.
- †*bovis * Riley, 1869a, 168 [Ixodes ¹]:
 Boophilus.—So. †annulatus.—Missouri t.—Reported for: #479 Canis
 (familiaris). Continued in later
 bulletins; Bos (taurus t. h.).
 Also for #12 Homo.
- †decoloratus, p. 255: Boophilus.— Reported for: #479 Canis (familiaris). Continued in later bulletins.
- †microplus, p. 255: Boophilus.— Reported for: #479 Canis (familiaris). Continued in later bulletins.
- †880. Hyalomma, pp. 255, 629, 824.
 - taegyptium, pp. 255, 629, 824: Hyalomma; H. aegyptium.—Syn. aegyptum m.—Reported for: #413 Felis (catus [dom.], species); #479 Canis (familiaris, species); #576 Ursus (species). Continued in later bulletins.
 - brevipunctatum Sharif, 1928, Rec. Ind.
 Mus., Calcutta, v. 30 (3), Oct.,
 314, 318: Hyalomma (Hyalommina) hussaini.—Anantapur t,
 Madras Pres., India.—Reported
 for: #413 Felis (tigris); #479 Canis
 (familiaris t. h.). Continued in
 later bulletins.
 - fabricii ⁸ Audouin in Savigny, 1826, Egypte, v. 1 (4), 186 [Ixodes ¹] [nv]: Hyalomma.—So. aegyptium, fide Neum., 1901b, 347.—Reported for: #479 Canis (familiaris).
 - hussaini Sharif, 1928, Rec. Ind. Mus., Calcutta, v. 30 (3), Oet., 314–318, pl. 9, figs. 3–4, text fig. 39a–c: Hyalomma (Hyalommina).—Akola ^t, Central Prov., India.—Reported for: #479 Canis (familiaris); #576 Ursus (species). Continued in later bulletins; Bos (species bullock t. h.).

- †impressum, p. 255: Hyalomma aegyptium.—Senegal; S. Africa.—Reported for: #413 Fclis (catus [dom.]); #479 Canis (familiaris). Continued in later bulletins.
- isaaci Sharif, 1928, Rec. Ind. Mus., Calcutta, v. 30 (3), Oct., 302, 307–310, pl. 9, fig. 2, text fig. 36a-b: Hyalomma (Hyalomma) aegyptium.—Kandeli, Centr. Provinces, India.—Reported for: #479 Canis (familiaris). Continued in later bulletins; Bos (species buffalo t. h.).
- kumari Sharif, 1928, Rec. Ind. Mus., Calcutta, v. 30 (3), Oct., 314, 319–320, pl. 9, fig. 5, text fig. 40a-c: Hyalomma (Hyalommina).—Parabikulam t, India.—Reported for: #413 Fclis (tigris); #479 Canis (familiaris). Continued in later bulletins; Hemitragus (hylocrius t. h.).
- monstrosum Nuttall & Warb., 1908, Proc. Camb. Philos. Soc., v. 14 (4), 414, figs. 41-45: Hyalomma¹; Nosomma.—India ¹.—Reported for: #479 Canis (familiaris); #576 Ursus (species). Continued in later bulletins.
- syriacum, p. 824: Hyalomma.—Reported for: #479 Canis (familiaris).
 Continued in later bulletins.
- †881. Amblyomma, pp. 256, 482, 629, 824.
 - agamum Aragão, 1912, Mem. Inst. Oswaldo Cruz, v. 4 (1), 97-119, figs. 1-6, pl. 2, figs. 1-2, pl. 3, figs. 1-3: Amblyomma.—Brazil t.—Negative for: #413 Felis (catus); #479 Canis (familiaris).
 - †*americanum, p. 256; Amblyomma. —America t.—Reported for: #413 Felis (pardalis); #479 Canis (familiaris, species (wolf)); #485 Vulpcs (species); #552 Mephitis (species). Continued in later bulletins.
 - †cajennense, p. 256: Amblyomma.— Reported for: #413 Felis (concolor azteca); #479 Canis (azaraei, familiaris, species (coyote)); #485 Vulpes (species); #563 Nasua (socialis). Continued in later bulletins.

- calcaratum Neum., 1899a, 226: Amblyomma.—Brazil^t.—Reported for: #479 Canis (familiaris t. h.). Continued in later bulletins.
- conspicuum * Aragão, 1913, Mem. Inst. Oswaldo Cruz, v. 5 (3), 265–266, pl. 26, figs. 1–2: Amblyomma.—Brazil t.—So. pictum, fide Robinson, 1926, 238.—Reported for: #479 Canis (familiaris t. ll.).
- darlingi Nuttall, 1912, Parasitol., v. 5 (1), Feb., 50-60, figs. 1-4: Amblyomma.—Panama t.—Reported for: #479 Canis (familiaris, species). Continued in later bulletins.
- eburneum Gerst., 1873a, 465-466, pl. 18, fig. 1: Amblyomma; A. hebraeum.—Africa t.—Reported for: #413 Felis (leo). Continued in later bulletins; Varanus (saurus t. h.).
- exornatum Koch, 1844a, 231: Amblyomma 1; Aponomma.—S. Africa 5 (Weinachtsbai).—Reported for: #479 Canis (familiaris, species). Continued in later bulletins.
- †fossum, p. 256: Amblyomma; Amblyomma ovale.—Reported for: #413 Felis (onca); #479 Canis (familiaris); #525 Tayra (barbara); #563 Nasua (socialis).
- †hebraeum, pp. 256, 482: Amblyomma.—Reported for: #413 Felis (leo); #435 Civettictis (civetta); #473 Lycaon (pictus); #479 Canis (familiaris). Continued in later bulletins.
- incisum Neum., 1906i, 206-207: Amblyomma.—Bolivia —Reported for: #479 Canis (azarae). Continued in later bulletins.
- [*inornatum Banks, 1909, Proc. Ent. Soc. Wash., v. 10 (3-4), June 14, 171-172, figs. 13-15: Aponomma.—Texas t.—Reported for: #479 Canis (familiaris t. h.). Continued in later bulletins.]
- tintegrum Karsch, 1879, Zeitschr. ges. Wissensch., v. 52, 534: Amblyomma.—Ceylon; India.—Reported for: #413 Felis (viverrina); #438 Viverricula (malaccensis). Continued in later bulletins. Also for #12 Homo.

- †*maculatum, p. 256: Amblyomma.— Reported for: #479 Canis (azarae, familiaris, griseus, species (wolf)); #485 Vulpes (species). Continued in later bulletins.
- marmoreum Koch, 1844a, 224: Amblyomma.—S. Africa.—Reported for: #433 Genetta (pardina, species). Continued in later bulletins.
- oblongoguttatum Koch, 1844a, 228:
 Amblyomma.—Brazil; Surinam.—
 Reported for: #479 Canis (familiaris). Continued in later bulletins.
- †ovale Koch, 1844a, 227–228: Amblyomma.—Mexico; S. America.—
 Reported for: #413 Felis (onca);
 #477 Ieticyon (venaticus); #479
 Canis (azarae, familiaris); #547
 Galictis (vittata); #563 Nasua (socialis). Also for #12 Homo.
- †persicum [nv].—Reported for: #479 Canis (familiaris).
- pictum Neum., 1906i, 204–206: Amblyomma.—Brazil ; S. America ;.—
 Reported for: #479 Canis (familiaris).
- [poortmani s Lucas, 1850a, xli-xlii: Ixodes l.—Cape of Good Hope l.—So. hebraeum Koch, 1844, fide Neum., 1901.—Reported for: #473 Lycaon (pictus t. h.). Continued in later bulletins.]
- †rotundatum Koch, 1844a, 229: Amblyomma.—Brazil.—Reported for: #479 Canis (familiaris). Continued in later bulletins. Also for #12 Homo.
- species Neum., 1902e, 293: Amblyomma.—Abyssinia.—Reported for: #462 Ichneumia (albicauda). Continued in later bulletins.
- †striatum, p. 256: Amblyomma.— Brazil ^t.—Var. or so. ovale, fide Robinson, 1926, 25.—Reported for: #479 Canis (azarae, familiaris); #485 Vulpes (species); #488 Urocyon (cinercoargentatus). Continued in later bulletins.
- sublaeve Neum., 1899a, 221: Amblyomma.—Siam ¹.—Reported for: #469 Hyaena (hyaena). Continued in later bulletins.

- testudinarium Koch, 1844a, 226: Amblyomma. — Java. — Reported for: #413 Felis (tigris). Continued in later bulletins.
- tholloni Neum., 1899a, 242-244:
 Amblyomma.—Africa ^t.—Reported for: #413 Felis (pardus).
- triguttatum Koch, 1844a, 225: Amblyomma.—Neuholland (Schwanenfluss).—Reported for: #479 Canis (familiaris). Continued in later bulletins.
- *tuberculatum Marx, 1894, Insect Life, v. 6, May, 314: Amblyomma.— Florida ^t.—Reported for: #479 Canis (familiaris); #485 Vulpes (species). Continued in laterbulletins.
- [†*unipunctatum *, p. 482: Ixodes !.— Penn. —Reported for: #413 Felis (catus [dom.], pardalis); #479 Canis (familiaris).]
- †variegatum, pp. 256, 482, 629: Amblyomma.—Reported for: #413 Felis (catus [dom.]); #479 Canis (aureus, familiaris, species (jackal)).
- varium Koch, 1844a, 224: Amblyomma.—Brazil.—Reported for: #479 Canis (familiaris). Continued in later bulletins.
- †887. PARASITIDAE 1, pp. 257, 482, 824.

 —. ASCAIDAE Ouds., 1905 [nv] p. 824.
- -. Asca Heyden, p. 824.
 - affinis, p. 824: Asca.—Reported for: #511 Mustela (putorius, vulgaris so. nivalis). Continued in later bulletins.
- Tympanospinctus Berlese, 1918,
 Redia, v. 13, Apr. 30, 117, tod. paradoxus. <†887 GAMASIDAE s, fide
 Z. R., 1921, (for 1919), Arach., 20.
 - paradoxus Berlese, 1918, Redia, v. 13, Apr. 30, 117: Tympanospinctus.— Greenwood Park ^t.—Reported for: #455 Mungos (mungo s. fasciatus t. h.).
- --. Zercon Koch, 1836a [nv]. Type Z. triangularis Koch, 1836, fide Vitzthum, 1929a, 30.
 ASCAIDAE, fide Vitzthum, 1929a, 30.
 - species Ouds., 1896b, v. 39, 135: Zereon.—The Hague.—Reported for: #511 Mustela (putorius, vulgaris so. nivalis).

- †890a. UROPODINAE, pp. 257, 633, 824. <ur>UROPODIDAE Berlese, 1885.
- -, Uropoda, pp. 484, 633, 824.
- elongata Onds., 1896b, Dec. 28, p. 134: Uropoda, - Utrecht'. - Reported for: #413 Felis (catus [dom.]).

parallela [nv]: Uropoda.—Reported for: #511 Mustela (furo).

†891. DERMANYSSINAE, p. 257.

†8911. Ceratonyssus, pp. 258, 634.

†musculi, p. 634: Ceratonyssus t .-Reported for: #511 Mustela (erminea, putorius).

†891o. Ichoronyssus, pp. 258, 634, 825. albatus, p. 624: Ichoronyssus.-So. arcuatus, fide Kol., 1859.—Reported for: #511 Mustela (erminca). Continued in later bulletins.

areuatus, p. 634: Ichoronyssus; Pteroptus. — Germany ¹. — Reported for: #511 Mustela (erminea, putorius, species (weasel)). Continued in later bulletins.

*isabellinus, p. 825: Ichoronyssus.-Holland t.—Reported for: Mustela (erminea, species (weasel)). Continued in later bulletins.

†892a. Haemogamasus, pp. 258, 827. nidi, p. 827: Haemogamasus.—Reported for: #511 Mustela (nivalis). Continued in later bulletins.

†895. Dermanyssus, pp. 259, 483, 636, 826.

†gallinae, p. 259: Dermanyssus.— Reported for: #413 Felis (catus [dom.]); #479 Canis (familiaris). Continued in later bulletins.

†896. PARASITINAE, p. 259.

Parasitus, pp. 483, 637.

mustelarum Onds., 1902, Tijdschr. Ned. Dierk. Ver., (2), vii, 33 [nomen nudum]; 1903, Ent. Ber. Ned. Ver., v. 1 (12), July, 85: Parasitus.—'s Gravenhage. — Reported for: #511 Mustela (crminea).

†898. LAELAPTINI, pp. 259, 637, 827. See Echinolaelaps, Eulaelaps, Hypo-

aspis, †900 Lactaps.

—. Echinolaelaps Ewing, 1929a, June, 10, 11, 185, tod. mt. Laelaps ¹ echiduinus Berlese — Dorsal plate covering most of body, unsculp-

- tured. Sternal plate large, well chitinized and with thickened lateral margins. Genito-ventral plate very large, extending to anal plate, its distal margin excavated to receive the proximal part of the latter; 4 pairs of setae on genitoventral plate. Anal plate somewhat subtriangular, with 3 setae, the distal unpaired one being much the stoutest.
- cchidninus Berlese, 1887, Acari, Myriopoda, Scorpiones, etc., v. 39 (1), pl. 50, figs. 1-4, 7 [Laclaps 1]: Echinolaclaps.—Reported for: #427 Paradoxurus (hermaphroditicus). Continued in later bulletins; Mus 1 (decumanus t. h.).
- —. Eulaelaps, p. 828.
 - stabularis, p.828: Eulaclaps t; Hypoaspis 1; Laclaps 1.—Germany t.— Reported for: #479 Canis (familiaris). Continued in later bulletins.
- -. Hypoaspis, p. 483. Type (1904, Redia, v. 1 (2), 261) Laelaps ¹ krameri Can. Syn. Hyoaspis m 1905, Zool. Centralbl., v. 12, 85.— <†898 Laelai**t**ini; in Laelap-TIDAE, fide Vitzthum, 1930a, 23.
 - celeripediformis Oudemans, 1902, Tijd. Ent., v. 45, 8, 22-23, pl. 20, fig. 29-30: Hypoaspis.—Sneek t, Holland.—Reported for: Mustela (erminea).
- †900. Laelaps. pp. 259, 483, 637, 828. crassipes Sehrank [nv]: Lactaps .-Sneek, The Hague.—Reported for: #511 Mustela (e:minca, vulgaris). Continued in later bulletins.
 - hilaris, p. 828: Laelaps.—Reported for: #511 Mustela (erminea, species (weasel)). Continued in later bulletins; Microlus (arvalis t. h.).
 - lemmi [p. 828] Grube: Laelaps.—Reported for: #511 Mustela (putorius, vulgaris so. nivalis). Continued in later bulletins; Lemmus (obensis t. h.).
 - species Ouds., 1896b, 134: Laelaps.— Sneck, The Hague.—Reported for: #511 Mustela (crminca, furo, putorius).

†910. Pediculoides, pp. 260, 484, 830. pilosus, p. 830: Pediculoides; Pygmephorus *.--Reported for: #511 Putorius * (vulgaris h o so. putorius). Continued in later bulletins.

†913. Tarsonemus, p. 260.

sauli Dahl, 1910, Centralbl. Bakt., I Abt., Orig., v. 53 (5), 532: Tarsoncmus.—Central Europe.—Reported for: #479 Canis (familiaris). Continued in later bulletins.

†924. Acarus, pp. 262, 484, 638.

farinae, p. 262: Acarus r siro r; Tyroglyphus o.—Königsberg.—So. siro.—Reported for: #479 Canis (familiaris).

species Müller, 1927, Pelztierzucht Jahrg. 3, 143-144: Acarus 1.—Aearusräude.—Reported for: Vulpes (species).

†930a. LISTROPHORIDAE, pp. 263, 638.

—. Listrophorus Pagenstecker, 1861b, 109, mt. leuckarti.

gibbus Pagenst., 1861e, 156-161, pl. 17, figs. 1-4: Listrophorus.—[Europe t] by Leuekart.—Reported for: #511 Mustela (furo). Continued in later bulletins; Lepus (cuniculus t. h.).

mustelae Mégnin, 1885 [nv]: Listrophorus.—Europe.—Reported for: #511 Mustela (erminea, furo, vulgaris so. nivalis, putorius).

putorii Mégnin, 18-[nv]; 1892m, 120: Listrophorus.—Reported for: #511 Mustela (furo t. h.).

†936. Notoedres, pp. 263, 484.

†cati, p. 263: Notoedres; Notoedrus e; Notoedres minor; Sarcoptes 1 notoedres.—Reported for: #413 Felis (catus [dom.] t. h., libyca domestica h, rufa, species); #479 Canis Continued in later (familiaris). bulletins.

[minor o [p. 484]: Sareoptes !.—So. cati.—Reported for: #413 Felis (catus [dom.] t. lr.). Continued in later bulletins.]

[†notoedres * p. 263: Sarcoptes 1; Agarus 1.—So. cati.—Reported for: #413 Felis (catus [dom.]); #479 Canis (familiaris); #563 Nasua (species). Continued later in bulletins.

†938. Psoroptes, pp. 263, 639.—Only one species [equi i] in Europe. other forms on other hosts are merely varieties, fide Vitzthum, 1929a, 104.

*communis • Fürstb., 1861b, 220-222. pls. 12-15 [Dermatokoptes *][includes equi, bovis, ovis]: Psoroptes.—So. equi.—Reported for: #415 Acinonyx

(guttatus so. jubatus).

cuniculi Mégnin, 1880a, 191-192 [Psoroptes longirostris 8]: Psoroptes communis o; Ps. equi.—Sèvres 1, France.—Reported Alfort, #479 Canis (familiaris); #521 Martes (foina). Continued in later bulletins; Lepus (cuniculus t. h.).

†942. Sareoptes, pp. 263, 484.

†canis * [p. 264] Gerl. [Acarus 1]: Sarcoptes; Aearus 1 siro 1.—Europe t.—So. suis, fide Raill., 1893a, 655; distinct variety fide Vitzthum, 1929a, 88.—Reported for: #479 Canis (familiaris t. h.). Continued in later bulletins.

†eanis h [p. 264] Raill.: Sarcoptes scabiei.—Europe t.—Reported for: Canis (familiaris t. h.). Continued in later bulletins.

eunieuli h, p. 484: Sarcoptes minor; S. scabiei; Acarus 1 siro 1.—France t.— Syn. praecox, fide Warburton, 1921, Parasitol., 284-285.—Reported for: [#479 Canis (familiaris neg. exp.);] #511 Mustela (furo); #521 Martes (foina exp.). Continued in later bulletins; Lepus (cuniculus t. h.).

furonis Raill., 1893a, 656: Sarcoptes; scabiei.—France t.—Reported for: #511 Mustela (furo t. h.). Continued in later bulletins. Neg. to #12 Homo and #479 Canis (familiaris).

thominis s, pp. 264, 484: S. scabiei; Sarcoptes.—Exp. failed on #413 Felis (catus [dom.]).

hydrochoeri Mégn., 1880a, 169: S. scabiei.—Museum Paris.—Reported for: #511 Mustela (furo). Continued in later bulletins; Hydrochoerus (capybara t. h.).

†leonis [p. 264]: S. (Eusarcoptes) scabiei.—Paris menagerie.—Reported for: #413 Felis (leo); #469

- Hyaena (species). Continued in later bulletins.
- tlupi [p. 264] Mégn., 1880a, 165: Sarcoptes scabiei.—France t.—Reported for: #479 Canis (latraus, lupus t. h.). Continued in later bulletins.
- tovis, p. 264: Sarcoptes; Acarus siro l.—Europe l.—Reported for: #479 Canis (familiaris exp. negative). Continued in later bulletins.
- †scabiei, p. 264: Sarcoptes '.—Reported for: #479 Canis (azarae, familiaris, griseus); #511 Mustela (furo). Continued in later bulletins.
- species Colin, 1867a, 93-97: Sarcoptes.—Paris Zoo.—Probably so. S. (Notoedres) alepis Railliet & Lucet, 1893, fide Railliet, 1893a, 663.—Reported for: #563 Nasua (species).
- squamiferus ° Fürstb., 1861a, 214–215, pl. 3, 4, figs. 23–26, 31, 38, suis + canis renamed: Sarcoptes.—Reported for: #479 Canis (familiaris). Continued in later bulletins.
- †vulpis, p. 264: Sarcoptes scabiei.—
 Id. Rugen '; Europe.—Reported
 for: #485 Vulpes (fulva, species
 t. h., vulpes vulpes); #511 Mustela
 (species).

†944b. Caparinia, pp. 264, 831.

- hyenae ° Mégn., 1880a, 203, pl. 20 [Chorioptes ¹ setiferus]: Caparinia.—So. sctifera.—Europe ¹.—Reported for: #469 Hyaena (species).
- setifera Mégn., 1880a, 203, pl. 20 [Chorioptes ¹]: Caparinia.—Contains 2 varieties, hyenae ^o, vulpis.— Europe ^t.—Reported for: #469 Hyaena (species).
- vulpis Mégn., 1880a, 203 [Chorioptes¹ setiferus¹]: Caparinia.—Europe¹.—
 Reported for: #485 Vulpes (vulpes t. h.).
- †944c. Otodectes, p. 264. Bur.
 - [*auricularum * Lucas & Nicolet, 1849, Bul. Soc. ent. France, 2 ser., v. 7 (3) [post April 11], xxxiv-xxxv [Sarcoptes]; Chorioptes ; Symbiotes .—So. †944c cynotis, fide

- Canest. & Kramer, 1899a, 19.— Louisiana '.—Reported for: #413 Felis (catus {dom.}, species); #479 Canis (familiaris t. h.).]
- [canis * Bendz, 1862a [Symbiotes 1]: Chorioptes * auricularum *.—So. cynotis, fide Canest. & Kramer, 1899a, 19.—Reported for: #413 Felis (catus [dom.] t. h.); #479 Canis (familiaris).]
- [cati ° Rail., 1893a, 678-679 (felis 1860 renamed): Chorioptes ¹ auricularum *.—So. cynotis, fide Canest. & Kramer, 1899a, 19.—Reported for: #413 Felis (catus [dom.] +. h.); #479 Canis (familiaris exp.).]
- cynotis Hering, 18380, 584, 600-602, pl. 43, figs. 5-6 [Sarcoptes 1]: Otodectes; Chorioptes 1.—Europe 1; Canada.—Reported for: #413 Felis (catus [dom.]); #479 Canis (familiaris t. h.); #485 Vulpes (fulva); #486 Alopex (lagopus); #511 Mustela (furo).
- [*ecaudatus o Mégn., 1880a, 203-205, pl. 21, figs. 1-7; cynotis renamed [Chorioptes 1]: Chorioptes 1 auricularum o.—Reported for: #413 Felis (catus [dom.]); #479 Canis (familiaris); #511 Mustela (furo). Continued in later bulletins.]
- [felis Huber, 1860 [nv], see Rail., 1893a, 674: Symbiotes.—So. cynotis, fide Canest. & Kramer, 1899a, 19.—Reported for: #413 Felis (catus t. h.); #479 Canis (familiaris).]
- furonis Rail., 1893a, 678: Chorioptes ¹ auricularum ⁸; Otodectes; Symbiotes ¹ cynotis.—France ¹.—Reported for: #470 Canis (familiaris negative exp.); #511 Mustela (furo).

†949. Tydeus, p. 266.

- †molestus, p. 266: Tydeus.— Peru ', Europe.—Reported for: #413 Felis (catus [dom.]); #479 Canis (familiaris). Continued in later bulletins.
- Lorryia Ouds., 1925. Ent. Ber., v. 7
 (146), Nov. 1, 32-33, mt. superba
 Ouds. < †953 томвышае, near</p>
 Tydeus.
 - superba Ouds., 1925, Ent. Ber., v. 7 (146), Nov. 1, 33: Lorryia.—Amboina t.—Reported for: #437 Viverra (species t. h.).

†955. Leptus, p. 266.

†*americanus: Leptus; Trombidium[†].—Reported for: #413 Felis (catus [dom.]); #479 Canis (familiaris).

†964. Metathrombium, p. 265.

†poriceps, p. 268: Metathrombidium o t.—France t.—Reported for: #413 Felis (catus [dom.]); #464
Herpestes (species); #479 Canis (familiaris). Continued in later bulletins.

†970. Trombicula, pp. 269, 485, 832.

†akamushi, pp. 266, 269, 832: Trombicula.—Japan '.—Reported for: #413 Felis (catus); #479 Canis (familiaris). Continued in later bulletins.

†autumnalis, pp. 269, 832: Trombicula; Leptus !.—Larva of †974 pusillum, fide Bruyant, 1910, Zool. Anz., v. 35, 347. Reported for: #413 Fclis (catus [dom.], species); #479 Canis (familiaris). Continued in later bulletins.

†irritans, p. 269: Trombicula; Trombidium —Reported for: #413 Felis (catus [dom.]); #479 Canis (familiaris).

shannoni Ewing, 1929, Proc. Ent. Soc. Wash., v. 31 (1), Jan., 10: Trombicula.—Verrugas Cañon ^t, Lima, Pern.—Reported for: #413 Felis (catus [dom.] t. h.).

species Kitashima & Miyajima, 1918, Kitasato Arch. Exp. Med., v. 2 (2), 272, 333, given as coarctata: Trombicula; Mikrotrombidium °.— Asia.—Reported for: #413 Felis (catus [dom.]).

species Sambon, 1928, Ann. Trop.
Med. & Parasitol., Liverpool, v. 22
(1), June, 93: Trombicula.—Reported for: #413 Felis (species).

†tlalsaluate, p. 269: Trombicula; Trombidium 1.—Reported for: #413 Felis (catus [dom.]); #479 Canis (familiaris).

†vandersandei, p. 269: Trombienla; Trombidium ¹. Reported for: #413 Felis (catus [dom.]); #479 Canis (familiaris).

†wichmanni, p. 485: Trombicula; Trombidium 1.—Reported for: #413 Felis (catus [dom.]); #479 Canis (familiaris).

†974. Microtrombidium, pp. 257, 270, 285, 485, 639, 832.

†meridionale *, p. 270: Microtrombidium.—Reported for: #413 Felis (catus [dom.]); #479 Canis (familiaris).

†pusillum, pp. 270, 639, 832 [Trombidium.—Reported for: #413 Felis (catus, species); #479 Canis (familiaris); #511 Mustela (vulgaris so. nivalis, putorius). Continued in later bulletins.

species Ross, 1926, Rep. 17th Meet. Austral. Ass. Adv. Sci., 696: Microtrombidium.—Harvest mite.— Sydney, N. S. Wales.—Reported for: #479 Canis (familiaris).

†977. Trombidium, p. 270.

†holosericeum, p. 270: Trombidium.— Reported for: #413 Felis (catus [dom.]); #479 Canis (familiaris).

†striaticeps, p. 271: Trombidium.— Europe.—Reported for: #413 Felis (catus [dom.], species); #479 Canis (familiaris); #511 Mustela (erminea). Continued in later bulletins.

†987. Tetranychus, p. 271.

†molestissimus, p. 271: Tetranychus.— Reported *for: #413 Felis (catus [dom.]); #479 Canis (familiaris).

†989a. Myobia, pp. 272, 640, 833.

breviliamata, p. 833: Myobia.—Reported for: #511 Mustela (nivalis s. vulgaris t. h.).

trouessarti, p. 833: Myobia.—Congo t.—Reported for: #511 Mustela (nivalis s. vulgaris t. h.).

†991a. Cheyletiella, p. 272.

parasitivorax [p. 272] Mégnin, 18780, 425-426, pl. 28, figs. 1-7 [Cheyletus]: Cheyleticlla: Cheletiella .— Reported for: #413 Felis (catus [dom.]). Continued in later bulletins; Lepus (cuniculus t. h.).

†996. Cheyletus, pp. 272, 641.

†cruditus, p. 272: Cheyletus.— Europe.—Reported for: #479 Canis (familiaris). Continued in later bulletins. †1048. $INSECTA^{18}$, pp. 310–397, 486-490, 641-666, 834-845.

†1059. COLLEMBOLA, p. 312.

†1062. Achorutes. p. 312. Pseudoparasite.

viaticus Tullberg, 1872, K. Svenska Vet.-Akad. Handl., v. 10 (10), 50-51, pt. 10, figs. 7-20: Achorutes: Hypogastrura h. - Syn. humicola s, fide Folsom, 1916, 489.—Reported for: #479 Canis (familiaris).

†1097. MALLOP IIAGA, pp. 316, 486.

—. AMBLYCERA, p. 486.

—. MENOPONIDAE Mjöberg, 1910, Ark. f. Zool., v. 6 (13), 26-28, type Menopon.

-. BOOPINAE Harrison & Johnston, 1916, Parasitol., v. 8 (3), Jan., 340, 345.

—. Boopia Piaget, 1880a. 599, mt. tarsata. $\leq †1097.$ —Ext.

pcregrina Mjöberg, 1910, Ark. f. Zool., v. 6 (13), 21-26, pl. 4, fig. 9, text figs. 10-18: Boopia.—Indiat.— Reported for: #499 Lutra (pruneri t. h.).

-. Heterodoxus Le Souëf & Bullen, 1902b, 159, tod. mt. macropus * so. longitarsus. ≤ 1097 .—Ext.

*armiferus * Paine, 1912, Ent. News, v. 23 (8), Oct., 362, figs. A-D: Heterodoxus.—Berkeley^t, Calif.—So. longitarsus, fide Harrison, 1916a, 30.—Reported for: #479 (familiaris t. h.).

longitarsus Piaget, 1880a, 504-506, pl. 41, fig. 7 [Menopon 1]: Heterodoxus: Menacanthus1.—Syns.: armiferus *; macropus *; spiniger *; spinigerum c, fide Harrison, 1916a, 30.—Reported for: #479 Canis (familiaris, species (jackal)). Continued in later bulletins; Halmaturus (giganteus t. h.).

[spiniger * Enderlein, 1909, Denks. med.-naturw. Ges. Jena, v. 14, 80-81, pl. 8, figs. 4-5 [Menopon ¹]: Menopon (Menacanthus).— Kalahari t, Africa.—So. longitarsus, fide Harrison, 1916a, 30.—Reported for: #479 Canis (familiaris t. II.).j

†1098. ISCHNOCER.1, pp. 316, 486. †1099. TRICHODECTIDAE, pp. 316, 486. †1100. Trichodectes, pp. 486.—Ext.

acuticeps Neum., 1902, Arch. Parasitol., v. 5 (4), 601: Trichodectes.— Abyssinia —Reported for: #433 Genetta (genetta, species t. h.).

barbarac Neum., 1913, Arch. Parasitol., v. 15 (4), 616-617, fig. 9: Trichodectes.—Brazil t.—Reported for: #525 Tayra (barbara t. h.).

caffra Bedford, 1919, 5-6th Rept. Director Vet. Res. Union S. Africa (for 1918), 724-725, pl. 3, figs. Trichodectes.—Block 10-11: Spruit , Transvaal.—Reported for: #413 Felis (ocrcata cafra t. h.).

†canis, p. 316: Trichodectes.—Reported for: #479 Canis (familiaris

t. h., lupus, procyonoides).

cooleyi Bedford, 1929, 15th Rept. Director Vet. Serv. Union S. Africa, v. 1 (4), Oct., 513-514, fig. 13: Trichodectes.—Pretoria District t, Transvaal.—Reported for: #448 Suricata (suricatta hamiltoni t. h.).

crassus o Nitzsch, 1818a, 295 (melis renamed); Denny, 1842a, 187-188, pl. 17, fig. 3: Trichodectes.—Europe t.—Reported for: #528 Meles (meles meles s. vulgaris t. h.); #561 Procuon (lotor).

dubius o Nitzsch, 1818a, 296 (mustelae Schrank, renamed): Trichodectes.— Europe t.—Reported for: #511 Mustela (erminea, vulgaris t. 11., species).

exilis Nitzsch, 1818a, 296 [nomen nudum]; Nitzsch in Giebel, 1861. Zeit. ges. Natur., v. 18 (8-9), 87: Trichodectes.—Europe t.—Reported for: #499 Lutra (lutra s. vulgaris t. h.).

forficula Piaget, 1880a, 400-402, pl. 32, fig. 7: Trichodectes.—Rotterdam Zoo t.—Reported for: #476 Cuon (dukhunensis). Continued in later bulletins; Cervus (porcinus t. h.).

genetiae Bedford, 1919, 5-6th Rept. Director Vet. Res. Union S. Africa. (for 1918), 725-726, pl. 4, figs.

¹⁶ The cross reference to INSECTA has been prepared by Benjamin J. Collins.

12-13: Trichodectes. — Jericho ^t, Transvaal.—Reported for: #433 Genetta (ludia t. h.).

*interrupto-fasciatus Kellogg & Ferris, 1915a, 61-64, pl. 7, figs. 1-3:

Trichodectes. — Calif.; Bolivia. —

Reported for: #544 Taxidea (taxus);

#552 Mcphitis (species).

latus o Nitzsch, 1818a, 296 (canis De Geer renamed): Trichodectes.— Europe t.—Reported for: #479 Canis (dingo, familiaris t. h., latrans).

madagascariensis Mjöberg, 1910, Ark. f. Zool., v. 6 (13), 64-65, figs. 38-39: Trichodectes. — Madagascar t.—Reported for: #441 Eupleres (goudoti t. h.).

matschiei Stobbe, 1913, Sitzungsb. Ges. natur. Fr. zu Berlin, No. 8, Oct., 372–374: Trichodectes.—Cameroon ¹. — Reported for: #499 Lutra (matschiei t. h.).

melis Fabr., 1805a, 341-342 [Pediculus 1]: Trichodectes.—Europe t.—Syn. crassus c.—Reported for: #528 Meles (meles meles t. h.); #561 Procyon (lotor).

micropus ° Giebel, 1874a, 54-55 (vulpis renamed): Trichodectes.— Europe t.—Reported for: #485 Vulpes (vulpes t. h.).

mustelae Sehrank, 1803a, 186 [Pediculus]: Trichodectes.—Europe t.—
Syns.: dubius o; retusus t, fide Harrison, 1916a, 72.—Reported for:
#511 Mustela (species t. h., vulgaris); #521 Martes (species).

nasuatis Osborn, 1902, Ohio Nat., v. 2 (3), Jan., 178, pl. 2, fig. 3: Trichodectes.—Costa Riea t.—Reported for: #563 Nasua (narica t. h.).

*octomaculatus · Paine, 1912, Ent. News, v. 23 (10), Dec., 438-439, pl. 20, fig. 1: Trichodectcs.—Palo Alto ·, Calif.—Reported for: #561 Procyon (lotor, psora t. h.).

cetopunetatus * Leach in Denny, 1852, List Brit. Anim., Part II, Anoplura, 29: Trichodectes.—So. canis, fide Harrison, 1916a, 71.—Reported for: #479 Canis (familiaris). ovalis Bedford, 1928, 13-14th Rept. Director Vet. Res. Union S. Africa, part 2, Oct., 841-842, pl. 1, figs. 1, 3; pl. 6, fig. 13: Trichodectes.—Onderstepoort t, Transvaal.—Reported for: #540 Ictonyx (striata); #541 Poecilogale (albinucha t. h.).

pallidus Piaget, 1880a, 405–406, pl. 32, fig. 9: Trichodectes.—Rotterdam Zoo.—Reported for: #563 Nasua (narica s. fusca t. h., narica bullata).

pinguis Nitzsch in Burm., 1838, Handb. d. Ent., v. 2 (2), 435: Trichodectes.—Reported for: #576 Ursus (arctos t. h., thibetanus).

procyonis Neum., 1913, Arch. Parasitol., v. 15 (4), 624-626, fig. 14: Trichodectes.—Reported for: #561 Procyon (lotor t. h.).

pusillus ° Nitzseh in Giebel, 1861, Zeit. ges. Natur., v. 18 (8-9), 88, dubius renamed: Trichodectcs.— So. mustelae.—Reported for: #511 Mustela (erminea, vulgaris t. h.).

*quadraticeps Chapman, 1897, Ent. News, v. 8 (8), Oct. 1, 185–186, pl. 9, fig. 1: Trichodectes.—Palo Alto t, Calif.—Reported for: #485 Vulpes (cascadensis); #488 Urocyon (cincreoargenteus s. virginianus t. h., cincreoargenteus sequoiensis so. californicus sequoiensis).

*retusus * Nitzseh, 1818a, 296 [nomen nudum]; Nitzseh in Burm., 1838, Handb. d. Ent., v. 2 (2), 436: Trichodectes.—Europe *.—So. mustelae, fide Harrison, 1916a, 72.—Reported for: #511 Mustela (erminea, species (mink, weasel), vison nesolestes, vulgaris); #521 Martes (foina t. h., martes); #523 Gulo (luscus).

riveti Neum., 1913, Arch. Parasitol., v. 15 (4), 614-616, figs. 7-8: Trichodectes.—Reported for: #479 Canis (magellanicus riveti t. h.).

species Baker, 1919, Rept. Canad. Arctic Exped., v. 3, Sept. 12, 4D: Trichodeetes i.—N. Alaska.—Reported for: #485 Vulpes (alaseensis).

species Giebel, 1861, Zeit. ges. Natur., v. 18 (8-9), 88: Trichodectes.—Reported for: #511 Mustela (erminea).

*thoracicus Osborn, 1902, Ohio Nat., v. 2 (3), Jan., 178, pl. 2, fig. 4: Trichodectes.—Lake Co., Calif.—Reported for: #566 Bassariscus (astutus t. h.).

tigris Penton, 1870, Month. Micr. J., v. 4 (21), Sept. 1, 147-148: Trichodectes.—Reported for: #413 Felis (tigris t. h.).

vulpis Denny, 1842a, 189, pl. 17, fig. 5: Trichodectes.—Great Britain .—Syn. micropus o.—Reported for: #485 Vulpes (species, vulpes t. h.).

vulpis d s of Tasch., 1882a (1883a), 207-209, pl. 7, fig. 1 [not Denny, 1842a]: Trichodectes.—So. octomaculatus, fide Harrison, 1916a, 73.— Reported for: #561 Procyon (lotor).

zorillae Stobbe, 1913, Sitzungsb. Ges. naturf. Fr. Berlin, No. 8, Oct., 374–375, fig. 3: Trichodectes. — Tunisia t.—Reported for: #540 Ictonyx (libyca s. vaillantii).

—. Felicola Ewing, 1929a, June, 121, 122, 192–193, tod. Trichodectes ¹ subrostratus. < †1099.—Ext. Syn. Felicinia ^o Bedford, 1929, 15th Ann. Rept. Dir. Vet. Services Union S. Africa, v. 1 (4), Oct., 519, tod. Trichodectes ¹ subrostratus.

acutirostris Stobbe, 1913, Sitzungsb. Ges. naturf. zu Berlin, No. 8, Oct., 378–379, figs. 7a-b [Trichodectes 1]: Felicola; Felicinia o.—Pemba t, Africa.—Reported for: #458 Atilax (galera t. h.).

calogaleus Bedford, 1928, 13-14th Rept. Director Vet. Res. Union S. Africa, Part 2, Oct., 842-844, pl. 2, fig. 4, pl. 3, fig. 7 [Trichodectes 1]: Felicola; Felicinia o.—Transvaal t.—Reported for: #451 [Galerella] (cauui t. h.); #464 Herpestes (pulverulentus).

cynictis Bedford, 1928, 13-14th Rept.
Director Vet. Serv. Union S. Africa, Part 2, Oct., 844-845, pl. 3, fig. 8 [Trichodectes]: Felicola; Felicinia o.—S. Africat.—Reported for: #450 Cynictis (penicillata t. h.).

inaequalis Piaget, 1880a, 388-389, pl. 32, fig. 3 [Trichodectes ¹]: Felicola; Felicinia ^o.—Rotterdam Zoo.—Reported for: #464 Herpestes (cafra, ichneumon t. h.).

mungos Stobbe, 1913, Sitzungsb. Ges. naturf. Fr. zu Berlin, No. 8, Oct., 375-377, fig. 5 [Trichodectes 1]: Felicola; Felicinia o.—Africa t.—Reported for: #451 Galerella (gracilis [, gracilis badius]).

rammei Stobbe, 1913, Sitzungsb. Ges. naturf. Fr. Berlin, No. 8, Oct., 377–378, fig. 6 [Trichodectes 1]: Felicola; Felicinia o.—A m a n i o, German E. Africa.—Reported for: #451 Galerella (bruneo-ochracea); #458 Atilax (galera t. h.).

*subrostratus Nitzsch, 1818a, 296 [nomen nudum]; Nitzsch in Burm., 1838, Handb. d. Ent., v. 2 (2), 436 [Trichodectes]: Felicola; Felicinia o.—Syn.? Pediculus canis O. Fabr., 1780.—Reported for: #413 Felis (catus [dom. t. h.], libyca, rufa, rufa californica); #464 Herpestes (pluto); #511 Mustela (erminea).

viverriculae Stobbe, 1913, Sitzungsb. Ges. naturf. Fr. Berlin, No. 8, Oct., 375, fig. 4 [Trichodectes ¹]: Felicola; Felicinia ^o.—Tamatave ^t, E. Madagascar.—Reported for: #438 Viverricula (rasse t. h.).

—. Neotrichodectes Ewing, 1929a, 121, 194, tod. mt. Trichodectes ¹ mephitidis Packard. < †1099.—Ext.</p>

[*mephitidis * Osborn, 1896a, 242, figs. 150a-f: Trichodectes \(^1\).—
U.S.A.\(^1\)—So. mephitidis Packard, fide Harrison, 1916a, 3.—Reported for: #506 Helictis (everetti\(^1\)); #511
Mustela (noveboracensis, xanthogenys, xanthogenys munda); #547
[Grison](quiqui); #552 Mephitis (macroura, mephitis, occidentalis); #553
Spilogale (interrupta, phenax); #566
Bassariscus (astutus, astutus raptor so. astutus oregonus).]

*mephitidis Packard, 1873b, 732-733, fig. 60 [Goniodes ¹]: Neotrichodectes; Trichodectes ¹.—Fire-Hole Basin ¹, Wyoming.—Syns.: minu-

- tus *; mephitidis * Osb., 1896a, fide Harrison, 1916a, 3, 71.—Reported for: #552 Mephitis (mephitis, species t. h.).
- [*minutus * Paine, 1912, Ent. News, v. 23 (10), Dec., 439-440, pl. 20, fig. 4: Triehodectes '.—Marshall ', Ill.—So. mephitidis Packard, fide Harrison, 1916a, 71.—Reported for: #511 Mustela (novebaracensis t. h.).]
- Eutrichophilus Mjöberg, 1910,
 Ark. f. Zool., v. 6 (13), 71-72,
 tsd. (1916) 1st sp. eercalabes.
 \$\forall 1099.-\text{Ext}\$.
 - genettae Fresea, 1924, Bol. Real Soc. españ. Hist. nat., v. 24 (2), Mar. 7, 75-78, fig. 1: Eutrichophilus.—Vigo ^t, Spain.—Reported for: #433 Genetta (genetta rhodanica t. h.).
- —. PHILOPTERIDAE Burm., 1838, Handb. d. Ent., v. 2 (2), 422.
- —. Lipeurus Nitzseh, 1818a, 292, tsd. (1916) capanis syn. variabilis *. < †1098.—Ext.</p>
 - *dissimilis Piaget, 1880a, 359-360, pl. 29, fig. 1: Lipeurus.—North Carolina.—Reported for: #511 Mustela (vison). Continued in later bulletins.
- †1103. ANOPLURA, pp. 316-318, 486-488, 641, 834-835.
- —. PHTHIRIDAE Ewing, 1929a, 132, 147.
- †1107. Phthirus, pp. 317, 487.—Ext. †pubis, p. 317: Phthirus.—Reported for: #479 Canis (familiaris).
- †1108. HAEMATOPINIDAE, pp. 317, 488, 641, 834.
- -. HOPLOPLEURINAE, p. 641.
- —. Neohaematopinus, p. 641.—Ext.
 - *pacificus Kellogg & Ferris, 1915a, 38-40, pl. 1, fig. 2, pl. 5, figs. 3, 7a-b, textfigs. 14C-D: Neohaematapinus.—Calif. '—Reported for: #552 Mephitis (occidentalis). Continued in later bulletins.
- —. LINOGNATHINAE Enderlein, 1905, Zool. Anz., v. 29 (6), July 4, 194. Syn. TRICHAULINAE d Enderlein, 1904, Zool. Anz., v. 28 (4), Oct. 7, 136, 138.

- Linognathus Enderlein, 1905, Zool. Anz., v. 29 (6), July 4, 194, tod. piliferus Burm. < †1108.—Ext. Syn. Trichaulus bo Enderlein, 1904, Zool. Anz., v. 28 (4), Oct. 7, 136, 139, 141, tod. piliferus Burm.
 - [*bicolor s Lucas, 1847, Ann. Soc. ent. France, ser. 2, v. 5, 538–539, pl. 8, fig. 2a: Haematopinus l.—Louisiana l.—So. piliferus, fide Ferris, 1916, 163.—Reported for: #479 Cauis (familiaris t. h.).]
 - [canis-familiaris * Müller, 1776a, 184 [nomen nudum]: Pedieulus '.—Den mark '.—So. ? piliferus, fide Ferris, 1916a, 184.—Reported for: #479 Canis (familiaris t. li.).]
 - [flavidus s Nitzsch, 1864, Zeit. gcs. Natur., v. 23 (1), Jan., 21: Pediculus L.—Europe L.—So. piliferus, fide Ferris, 1916a, 163.—Reported for: #479 Canis (familiaris t. h.).
 - piliferus Burm., 1838, Gen. Ins. Rhyn., v. 1 (4), no. 13 [Pedieulus ¹]: Linognathus; Haematopinus ¹; Triehaulus ^h.—Europe ^t.—Syns.: bicalor ^s; ? canis-familiaris; isopus ^s; fiavidus ^s; piliferaus ^c, fide Ferris, 1916a, 163.—Reported for: #479 Canis (familiaris t. h., species (coyote)); #511 Mustela (fura).
 - *setosus Olfers, 1816a, 84 [nv] [Pedieulus 1]; Piaget, 1880a, 384: Linognathus.—Syn. piliferus *, fide Bedford, 1929, 714.—Reported for: #479 Canis (familiaris t. h.); #485 Vulpes (species); #486 Alapex (lagopus innuitus).
- †1110. HEMIPTERA, p. 318.
- †1153. Triatoma, p. 322.—Ext.
 - †megista, p. 323: Triatama.—Reported for: #413 Felis (catus).
- †1437. DIPTERA, pp. 353, 489, 835.
- †1457. CULICIDAE, pp. 356, 489.
- †1459. Aëdes. p. 358.-Ext.
 - †fasciatus * [Stegomyia *]: Aëdes.—Reported for: #413 Felis (catus [domestica]); #479 Canis (familiaris). Continued in later bulletins.
- †1460. Anopheles, p. 360.—Ext.
 - †superpictus, p. 362: Anopheles.— India.—Reported for: #479 Canis (familiaris).

†1479. SIMULIIDAE, p. 365.

†1480, Simulium, p. 366,- 9 Ext.

†pertinax, p. 367: Simulium.—Reported for: #479 Canis (familiaris).

†*venustum, p. 367: Simulium.— Brazil.—Reported for: #479 Canis (familiaris).

†1486. TABANIDAE, p. 368.

†1487. Tabanus, p. 368.— 9 Ext.

†gratus, p. 368: Tabanus.— Reported for: #479 Canis (familiaris).

†1571*B*. Gastrophilidae, p. 378.

†1572. Gasterophilus, pp. 378, 489.— Larvae in stom., intest.

equi h s Clark, 1797a, 298-308 [not Fabr., 1787] [Oestrus 1]: Gasterophilus.—Great Britain t.—So. intestinalis.—Reported for: #469 Hyacna (striata); #479 Canis (familiaris); #528 Meles (meles meles s. taxus, species). Continued in later bulletins; Equus (caballus t. h.).

†intestinalis, p. 378: Gasterophilus.— Paris.—Reported for: #479 Canis (familiaris).

†1573. OESTRIDAE, pp. 378, 489.

†1574. Oestrus, p. 378.

†ovis, p. 378: Oestrus.—Larvae in frontal sinuses.—Reported for: #479 Canis (familiaris). Continued in later bulletins; Ovis (aries t. h.).

—. Cuterebra, p. 489. <†1573.

*species Hall, 1924, J. Parasitol., v. 10 (4), June, 209: Cuterebra.—Larvae subent.—Boontown, N.J.—Reported for: #413 Felis (catus [dom.]).

*species Hall, 1925, J. Parasitol., v. 11 (4), June, 221: Cuterebra.— Larvae subcut.—Reported for: #413 Felis (catus [dom.]); #479 Canis (familiaris).

 Bogeria Austen, 1895, Ann. Mag. Nat. Hist., ser. 6, v. 15, 391, mt. princeps.

*emasculator l'itch, 1859, 3rd Rept. Insects N.Y., Suppl., 160-167, no. 210 [Cuterebra]: Bogeria. Larvae in scrotum.—Lakeville , N.Y.—Reported for: #413 Felis (catus [dom.]); #479 Canis (familiaris). Continued in later bulletins; Tamias (striatus t. li.).

*species Hall, 1924, J. Parasitol., v. II (2), Dec., 112: Bogeria.—Larvae in feces.—McNeill ', Miss.—Reported for: #479 Cauis (familiaris).

†1575. Dermatobia, p. 379.—Larvae subcut.

†cyaniveutris, p. 379: Dermatobia.— C. & S. America.—Reported for: #413 Felis (eoncolor, ouca); #479 Canis (familiaris). Continued in later bulletins.

†noxialis s, p. 379: Dermatobia.— Mexico.—Reported for: #479 Canis (familiaris).

†1578. CALLIPHORINAE, p. 379.

†1580. Auchmeromyia, p. 380.

†*Integla*, p. 380: Auchmeromyio.— Africa.—Larva sucks blood.—Reported for: #479 Canis (familiaris).

†1581A. Cochliomyia, p. 380.

†macellaria, p. 380: Cochliomyia.— Larvae in nasal cav., ova in tick lesions.—Panama.—Reported for: #413 Felis (catus); #479 Canis (familiaris).

†1586. SARCOPHAGIDAE, p. 381.

†1587. Sarcophaga, p. 381.

†carnaria, p. 381: Sarcophaga.—Reported for: #479 Canis (familiaris).

†ruficornis, p. 382: Sarcophage.— Cutaneous myiasis.—India.—Reported for: #479 Canis (familiaris).

†1591. Wohlfahrtia, p. 383.

†magnifica, p. 383: Wohlfahrtia.— Larva in ears, nose.—Europe, Asia, Africa.—Reported for: #479 Canis (familiaris). Continued in later bulletins.

†1594. MUSCIDAE, p. 383.

†1599, Cordylobia, p. 384.

†anthropophaga, p. 384: Cordylobia.— Larva subcut.—Africa.—Reported for: #413 Felis (eatus [dom.]); #479 Canis (familiaris). Continued in later bulletins.

gruenbergi : Dönitz, 1905, Sitzmagsb. Ges. naturi. Fr. Berlin, No. 10, Dec., 252: Cordylobia. Larva subcut.—German E. Africa I. So. anthropophaga, fide Bequaert, 1930, 973.—Reported for: #479 Canis (familiaris). †1601. Glossina, pp. 384, 489.—Ext.

†brevipalpis, p. 384: Glossina.—Reported for: #479 Canis (familiaris).

†longipalpis, p. 385: Glossina.—Reported for: #479 Canis (familiaris).

†longipennis, p. 385: Glossina.—Reported for: #479 Canis (familiaris).

†morsitans, p. 385: Glossina.—Reported for: #479 Canis (familiaris).

†pallidipes, p. 385: Glossina.—Reported for: #479 Canis (familiaris).

†palpalis, pp. 385, 489: Glossina.— Reported for: #479 Canis (familiaris).

†tachinoides, p. 385: Glossina.—Reported for: #479 Canis (familiaris).

†1602. Haematobia, pp. 385, 489.— Ext.

exigua de Meijere, 1903, Mededeel.
Proefstation Oost-Java, ser. 3, no.
44 [nv]; 1904, Bijdr. Dierk., v. 18,
104: Haematobia; Lyperosia °.—
Java ^t.—Reported for: #479 Canis
(familiaris). Continued in later
bulletins; Bos (species t. h.).

†1611. Pycnosoma, p. 386.

†flaviceps, p. 386: Pyenosoma.— Mouth.—Ceylon.—Reported for: #479 Canis (familiaris).

†1613. Stomoxys, p. 386.—Ext.

†calcitrans, pp. 386–387: Stomoxys.— Reported for: #479 Canis (familiaris). Continued in later bulletins.

nigra Macq., 1850, Dipt. exot. Suppl. 4, 212, pl. 22, fig. 5: Stomoxys.—
Bourbon Id. t—Syns.: glauca s; lafonti s; sitiens d 1907, fide Bequaert, 1930, 983.—Reported for: #479 Canis (familiaris).

†1615. *PUPIPARA*, pp. 387, 489–490, 644–660.

†**1616.** нірговозсідає, рр. 387, 489–490, 659–660.

†1617. Hippobosca, pp. 387, 489, 660.— Ext.

†eanina *, p. 387: Hippobosea.— Europe *.—Reported for: #479 Canis (familiaris t. li.). Continued in later bulletins.

canina b Drensky, 1926, Mitt. Bulgar. ent. Ges., v. 3, 94, 98, 103 [not canina Bond.]: Hippobosca equina; Hyppoboska equina.—

Bulgaria ^t.—Reported for: #479 Canis (familiaris t. h.).

†capcnsis, p. 489: Hippobosca.— Syns.: canina Rond.; cunicosa; francilloni, fide Speiser, 1905, 349.—Reported for: #479 Canis (familiaris t. h., species (pariah dog)). Continued in later bulletins.

†equina, p. 387: Hippobosca; Hyppobosca °.—Reported for: #479 Canis (familiaris). Continued in later bulletins; Equus (caballus

t. h.).

francilloni s Leach, 1818a, 554-555, pl. 26, figs. 8-10: Hippobosca.—So. capensis, fide Speiser, 1905, 349.—Reported for: #479 Canis (familiaris, species).

†maculata, p. 387: Hippobosca.— Syns.: acgyptia bengalensis; bipartita; ealopsis: variegata, fide Speiser, 1908, 197–198.—Reported for: #479 Canis (familiaris). Continued in later bulletins.

†1621. SIPHONAPTERA, pp. 387–390, 490, 660–666, 835–845.

†1623. HYSTRICHOPSYLLIDAE, pp. 387, 660, 835.

—. Hystrichopsylla, p. 835.—Ext.

dippiei Roths., 1902, Ent. Rec. J. Variation, v. 14 (3), 63, pl. 2, fig. 2: Hystrichopsylla.—Canada t.— Reported for: #511 Mustela (longicauda, vison energumenos).

Europe ^t.—Reported for: #511

Mustela (erminea, nivalis, vulgaris).

Continued in later bulletins.

Typhloceras, p. 838. < †1623.—Ext.

[bisnovemdentatus i Kol., 1863, Horae Soc. ent. Ross., v. 2 (for 1862), 36-37: Ctenophthalmus.— Europe t.—Syns.: ? Pulex martis, ? P. mustelae; so. ? Typhloceras poppei, fide Jord. & Roths., 1920, 62.—Reported for: #479 Canis (familiaris); #521 Martes (martes).]

---. Phalacropsylla Roths., 1915. Ectoparasites, v. 1 (1), Dec. 30, 39, mt. paradisea. < †1623.—Ext.

*paradisea Roths., 1915, Ectoparasites, v. 1 (1), Dec. 30, 39-41, figs. 42-43: Phalacropsylla.—Paradise;

Ariz.—Reported for: #552 Mephitis (species); #566 Bassariscus (astutus). Continued in later bulletins.

—. Nearctopsylla, p. 836. -Ext.

brooksi Roths., 1904, Novit. Zool., v. 11 (2), Sept. 12, 649-650, pls. 15-16, figs. 86, 88-89 [Ctenopsyllus ¹]: Nearctopsylla.—Canada ¹.—Reported for: #511 Mustela (cicognanii richardsonii, longicauda); #521 Martes (americana).

hygini, p. 836: Nearctopsylla.—Canada.—Reported for: #511 Mustela (cicognanii richardsonii t. h.).

hyrtaci, p. 836: Nearctopsylla.—Brit.
Columbia ^t.—Reported for: #511
Mustela (vison energumenos).

laurentini Jord. & Roths., 1923, Ectoparasites, v. 1 (5), Nov. 20, 315-316, figs. 319, 321: Nearctopsylla hygini. — New Brunswick *.—Reported for: #511 Mustela (species t. h.).

†1624. Leptopsylla, pp. 387, 660, 838.— Ext.

bidentata, pp. 660, 838: Leptopsylla.— Reported for: #511 Mustela (nivalis nivalis); #521 Martes (martes). Continued in later bulletins.

hamifer Roths., 1906, Canad. Ent., v. 38 (10), 324–325, fig. 44 [Ctenopsyllus d]: Leptopsylla.—Blackfalls t, Alberta.—Reported for: #511 Mustela (species t. h.).

†musculi^s, pp. 387, 838: Leptopsylla.— Europe.—Reported for: #521 Martes (martes). Continued in later bulletins; Mus (musculus t. h.).

spectabilis Roths., 1898, Ent. Rec. J. Var., v. 10 (10), Oct. 15, 250, 1 fig. [Typhlopsylla]: Leptopsylla; Ctenopsyllus d.—N. Berwick t, England.—Reported for: #511 Mustela (crminea, vulgaris). Continued in later bulletins; Hypudaeus (glareolus t. h.).

†1625C. Neopsylla, pp. 388, 665.— Ext.

inopina Roths., 1915, Ectoparasites, v. 1 (1), Dec. 30, 30–32, figs. 32–33: Neopsylla.—Calgary [†], Alberta.— Reported for: #511 Mustela (longicauda). Continued in later bulletins; Spermophilus (richardsoni t. h.).

[microctenus Kol., 1863, Horae Soc. ent. Ross., v. 2 (for 1862), 37: Ctenophthalmus '.— Europe 't.— Syn. ? Pulex martis Bouché.— Reported for: #521 Martes (foina t. h.).]

spinea Roths., 1915, Ectoparasites, v. 1 (1), Dec. 30, 35, figs. 37-38: Neopsylla.—Dobrogea t, Rumania.—Reported for: #511 Mustela (putorius). Continued in later bulletins; Spermophilus (citellus t. h.).

teratura Roths., 1913, Ann. Mag. Nat. Hist., v. 12 (72), Dec., 540-541, pl. 14, fig. 3: Neopsylla.— E. Turkestan t.—Reported for: #511 Mustela (species).

—. Palaeopsylla, p. 836.—Ext.

minor, p. 837: Palaeopsylla.—Europe.—Reported for: #413 Felis (catus [dom.]); #511 Mustela (putorius).

†1626. DOLICHOPSYLLIDAE, pp. 388, 838.

—. Rhadinopsyllar, p. 841.—Ext.

accola Wagner, 1930, Ann. Mus. Zool. Acad. Sci. U. R. S. S., v. 30 (4) (for 1929), 533–534, fig. 5: Rhadinopsylla.—Tibet ^t.—Reported for: #511 Mustela (species t. h.).

bivirgis Roths., 1913, Ent., v. 46
(606), Nov., 297–298, pl. 13, figs.
1-3: Rhadinopsylla.—Burkhan t,
E. Turkestan.—Reported for: #511
Mustela (species t. h.).

vicina Wagner, 1930, Ann. Mus. Zool. Acad. Sci. U. R. S. S., v. 30 (4) (for 1929), 534–535, fig. 6: Rhadinopsylla.—East Tibet .—Reported for: #511 Mustela (species t. h.).

Rectofrontia Wagner, 1930, Mag. d. Parasitol, v. 1, 168, 169. < †1626. – Ext.

pentacanthus, p. 841: Rhadinopsylla (Rectofrontia).—Tring t, England.—Reported for: #511 Mustela (species, vulgaris t. h.). Continued in later bulletins.

- —. Ctenophthalmus, p. 839. < †1626.— Ext.
 - agyrtes, p. 839: Ctenophthalmus.— Europe.—Reported for: #413 Felis (catus); #511 Mustela (furo, putorius, species (stoat), vulgaris). Continued in later bulletins.
 - apertus, p. 839: Ctenophthalmus.— France.—Reported for: #511 Mustela (nivalis nivalis). Continued in later bulletins.
 - arvalis Wagner & Ioff, 1926, Rev. Microbiol. Epidemiol., v. 5 (1-2), 76-77, 115-116, fig. N, 1-2: Ctenophthalmus.—Volga Region '.—Reported for: #511 Mustela (nivalis). Continued in later bulletins.
 - assimilis, p. 839: Ctenophthalmus.— Denmark.—Reported for: #511 Mustela (erminea). Continued in later bulletins.
 - bisoctodentatus, p. 839: Ctenophthalmus.—Great Britain.—Reported for: #511 Mustela (nivalis, putorius).
 - cervinus Jord. & Roths., 1920, Ectoparasites, v. 1 (2), Jan. 20, 100-101, figs. 85, 87: Ctenophthalmus nivalis.—Zermatt ^t, Switzerland.—Reported for: #511 Mustela (nivalis nivalis). Continued in later bulletins.
 - [orientalis d of Roths., 1900, Ent. Rec. J. Var., v. 12 (1), Jan. 15, 19-20: Typhlopsylla.—England.—So. bisoetodentatus, fide Dalla Torre, 1924a, 8.—Reported for: #511 Mustela (species).
 - rettigi Roths., 1908, Proc. Zool. Soc. London, Part 3, Oct. 30, 624-625, pl. 28, figs. 3-4: Ctenophthalmus.— Malcoci ^t, Rumania.—Reported for: #511 Mustela (desertorum). Continued in later bulletins.
 - uncinatus Wagner, 1898a, 590, pl. 10, fig. 29 [Typhlopsylla]: Ctenophthalmus.—New Alexandria , Lublin Govt.—Reported for: #511 Mustela (putorius s. vulgaris). Continued in later bulletins.
- —. Chiastopsylla, p. 841.—Ext. †rossi, p. 841: Chiastopsylla.—S. Africa.—Reported for: #451 [Gale-

- rellal (cauui). Continued in later bulletins.
- Mesopsylla Dampf, 1910, Zool.
 Jahrb. Suppl., v. 12 (3), Oct. 6, 609, 647, 649, tod. eueta. < †1626.—
 Ext.
 - hebes Jord. & Roths., 1915, Ectoparasites, v. 1 (1), Dec. 30, 19-21, figs. 22-23: Mesopsylla.—E. Turkestan t.—Reported for: #413 Felis (catus [dom.]); #485 Vulpes (vulpes); #511 Mustela (species). Continued in later bulletins.
- Malacopsylla Weyenbergh, 1881,
 Period. Zool., v. 3 (4), 271, tod.
 mt. Pulex¹ grossiventris. < †1626.—
 Ext. Syn. Megapsylla o Baker,
 1898, J. N. Y. Ent. Soc., v. 6 (1),
 Mar., 53, mt. Pulex ¹ grossiventris.
 - androeli s Roths., 1904, Novit. Zool., v. 11 (2), Sept. 12, 604-606, pl. 7, fig. 10, pl. 8, figs. 11-12, 14-15: Malacopsylla.—Santa Cruz t, Brazil.—So. grossiventris, fide Jord. & Roths., 1911, 69.—Reported for: #469 Canis (griseus t. h.).
 - grossiventris Weyenbergh, 1879, Bol. Acad. nac. Cienc. Rep. Argentina, v. 3 (2-3), 188-193 [Pulex 1]: Malacopsylla; Megapsylla o.—Argentina t.—Syns.: androcli s; inermis s; tolypeutis s, fide Jord. & Roths., 1911, 69.—Reported for: #479 Canis (griseus). Continued in later bulletins; Dasypus (minutus t. h.).
- Acanthopsylla Jord. & Roths.,
 1922, Ectoparasites, v. 1 (4), Sept.
 1, 231, 240-242, tod. Ceratophyllus ¹ rothschildi. < †1626.—Ext.
 - rothschildi Rainbow, 1905, Rec. Austral. Mus., v. 6 (2), Sept. 15, 103–107, figs. 27–29 [Ceratophyllus ¹]: Acauthopsylla rothschildi.—N. S. Wales ¹.—Reported for: #413 Felis (tigris). Continued in later bulletins.
 - saphes Jord. & Roths., 1922, Ectoparasites, v. I (4), Sept. 1, 242-245, figs. 232-234: Acanthopsylla.—Victoria [†], Australia.—Reported for: #413 Felis (species t. h.).

—. Trichopsylla ^{17a} Kol., 1863, Horae Soc. ent. Ross., v. 2 (for 1862), 32, tsd. (1904) 1st sp. penicilliger [misdetermined]. < †1626.—Ext. [Not Trichopsylla h Thomson, 1877, Hemipt.]</p>

appropinquans Wagner, 1930, Ann. Mus. Zool. Acad. Sci. U. R. S. S., v. 30 (4) (for 1929), 545.—Ussuri Region t.—Reported for: #521

Martes (flavigula t. h.).

globiceps Tasch., 1880a, 66-67, pl. 2, figs. 10-11 [vulpes Motsch. renamed] [Pulex]: Trichopsylla; Chaetopsyllas; Oncopsyllast.—Palaearetic Region t.—Reported for: #485 Vulpes (species, vulpes t. h.); #486 Alopex (lagopus); #528 Meles (anakuma, species, taxus so. meles meles).

homoeus Roths., 1906, Ent. Mo. Mag., v. 42 (509). Oct., 222-223 [Chactopsylla s]: Trichopsylla; Vermipsylla 1.—Ancouza 1, Central Asia.—Reported for: #479 Canis (species t. h.); #485 Vulpes (species, vulpes crucigera): #511 Mustela (nivalis nivalis).

[lasins Roths., 1906, Ent. Mo. Mag., v. 42 (509), Oct., 223-224, figs. 2-3: Chaetopsylla *.—Ancouza *, Central Asia.—Reported for: #479 Canis (species t. h.).]

*lotoris Stewart, 1926, Insec. Ins. Mens., v. 14 (7-9), July-Sept., 122-124, 1 fig.: Trichopsylla.—Olcott , N. Y.—Reported for: #561 Procyon (lotor lotor t. h.).

matina Jordan, 1925, Novit. Zool., v. 32 (1), Apr. 30, 103–104, fig. 15:

Trichopsylla. — Pyrenecs *. — Reported for: #521 Martes (martes t. h.).

[mikado Roths., 1904, Novit. Zool., v. 11 (2), Sept. 12, 645-646, pl. 14, fig. 76: Chactopsylla s.—Japan t.—Reported for: #511 Mustela (itatsi t. ln.).]

penicilliger s of Kol., 1863, Horae Soc. ent. Ross., v. 2 (for 1862), 3233, fig. 3 (Syn. ? martis Bouché): Trichopsylla ti.— Europe t.—Syn. homoeus, fide Jord. & Roths., 1920, 63.—Reported for: #510 Vormela (sarmatica); #511 Mustela (putorius); #521 Martes (foina, martes).

rothschildi Kohaut, 1903, Ållatt. Közlem., v. 2 (1), Jan. 24, 40-41, pl. 4, figs. 7-9, pl. 5, figs. 3, 5, 6 [Chaetopsylla *]: Trichopsylla; Vermipsylla ¹. — Hungary ¹. — Reported for: #511 Mustela (putorius t. h.).

sctosa Roths., 1906, Canad. Ent., v. 38 (10), Oct., 321-322, figs. 41-42 [Chaetopsylla *]: Trichopsylla.— Canada *.—Reported for: #479 Canis (latrans); #576 Ursus (americanus).

[strandi Wahlgren, 1903, Ark. f. Zool., v. 1 (1-2), 190-191, pl. 8, figs. 9-10 [Vermipsylla]: Chaetopsylla s.— Finmarken t, Norway.—Reported for: #576 Ursus (arctos t. h.).]

trichosa Kohaut, 1903, Állat. Közlem., v. 2, 39, pl. 4, fig. 6, pl. 5, fig. 2 [Chaetopsylla *]; Jord. & Roths., 1911, Novit. Zool., v. 18 (1), June 17, 70 [Vermipsylla *]: Trichopsylla. — Hungary *t. —Syn. kohauti, fide Jord. & Roths., 1911, 70.—Reported for: #485 Vulpes (species); #528 Meles (meles meles s. taxus, species).

[vulpes o Victor [Motsch.], 1840a, 170 [Pulex 1] [nomen nudum]: Chaeto-psylla s; Oncopsylla s; Vermipsylla 1.—Caucasus t.—Renamed globiceps Tasch., 1880.—Reported for: #485 Vulpcs (species, vulpes); #528 Meles (taxus so. meles meles).]

—. Arctopsylla Wagner [uv]; 1930, Katalog palaearkt. Aphanipt., 40, type tuberculaticeps Bezzi. < †1626.—Ext.

hyaenae Kol., 1846, Meletemata Ent., v. 5, 126, pl. 19, figs. 1a-d [Pulex ¹] [nv]; 1863, Horae Soc. ent. Ross., v. 2 (for 1862), 30 [Pulex ¹]: Arctopsylla; Chaetopsylla ¹; Trichopsylla ¹. — Transeaucasia ¹.—

¹⁷a Syns.: Chaetopsylla & Kohaut, 1903, Állatt. Közlem., v. 2 (1), Jan. 24, 37, tsd. (1914) 3d sp. rolhschildi; etd (1930) 1st sp. globiceps.

Oncopsylla * Wahlgren, 1903, Ark. f. Zool., v. 1 (1-2), Sept. 7, 186, tod. Palex † globiceps Tasch. so vulpes Ritsema.

Syn. striatus °.—Reported for: #469 Hyaena (striata, vulgaris so. hyaena).

[striatus ° Kol., 1863, Horae Soe. ent. Ross., v. 2 (for 1862), 30-31 (hyaenac renamed): Pulex ¹.—Reported for: #469 Hyacna (striata t. h.).]

tubcreulatieeps Bezzi, 1890, Boll. Soe. ent. Ital., v. 22 (1-2), Sept. 15, 30-33 [Pulex ¹]: Arctopsylla; Chaetopsylla¹; Trichopsylla¹; Vermipsylla¹.—Valtellina t.—Syn. tubereulatus m 1898.—Reported for: #576 Ursus (aretos t. h.).

[ursi ⁶ Roths., 1902, Ent. Rec. J. Var., v. 14 (3), 62, pl. 2, fig. 1 [Pulex ¹]: Trichopsylla ¹; Chaetopsylla ¹; Vermipsylla ¹.—Alberta ^t, Canada.—Reported for: #576 Ur-

sus (horribilis t. h.).]

Listropsylla, p. 841. < †1626.—Ext. agrippinae Roths., 1904, Novit. Zool., v. 11 (2), Sept. 12, 634–636, pl. 12, figs. 56–57, pl. 13, figs. 62, 64 [Ceratophyllus ¹]: Listropsylla.—Deelfontein ^t, Cape Colony.—Reported for: #451 [Galerella] (cauui).

dorippiae Roths., 1904, Novit. Zool., v. 11 (2), Sept. 12, 636-637 [Ceratophyllus ¹]: Listropsylla.—Deelfontein ^t, Cape Colony.—Reported for: #451 [Galerella] (gra-

eilis badius t. h.).

stygius Roths., 1908, Ent. Mo. Mag., v. 44 (527), Apr., 77-78, pl. 1, fig. 3 [Ceratophyllus ¹]: Listropsylla dolosus; Listropsylla.—Ruwenzori ^t, Uganda.—Reported for: #450 Cynietis (penicillata). Continued in later bulletins.

vieinus Roths., 1905, Novit. Zool., v. 12 (2), Sept. 20, 484, pl. 13, fig. 7 [Ceratophyllus]: Listropsylla.—Wakkerstroom , Transvaal.—Reported for: #451 [Galcrella] (graeilis badius t. h.).

—. Daetylopsylla Jordan, 1929, Novit. Zool., v. 35 (1), Jan., 37–38, tod. Dolichopsyllus bluci. < †1626.— Ext.

*bluei Fox, 1909, Ent. News, v. 20 (5), May, 195-196, figs. 1-4 [Dolichopsyllus]: Daetylopsylla; Ceratophyllus ¹.—California ¹.—Reported for: #511 Mustela (xanthogenys t. li.).

—. Amphipsylla, p. 841.—Ext.

eontigua Jord. & Roths., 1913, Zool., Ser. 4, v. 17 (869), Nov. 15, 406–407, pls. 2–3, figs. 1, 5–6 [Amphipsylla]: Amphipsylla contigua; Amphypsylla contigua.—Bohemia^t.—Reported for: #479 Canis (familiaris); #511 Mustela (erminea t. h.).

dumalis Jord. & Roths., 1915, Ectoparasites, v. 1 (1), Dec. 30, 13-15, figs. 16-18: Amphipsylla.—Reported for: #511 Mustela (erminea).

locuples, p. 841: Amphipsylla contigua.—Turkestan t.—Reported for: #511 Mustela (erminea, nivalis, nivalis pallida).

primaris Jord. & Roths., 1915, Eetoparasites, v. 1 (1), Dec. 30, 15–17, figs. 19–20: Amphipsylla.—E. Turkestan ^t.—Reported for: #511 Mustela (erminca t. h.).

rossica Wagner, 1913, Rev. russe d'Ent., v. 12 (3, for 1912), Apr. 19, 576, fig. 3: Amphipsylla.—Charkov', Russia.—Syn.: sibiriea d Wagn., 1898, 578 (in part); 1909, 197, 201 (in part), fide Jord. & Roths., 1913, 403.—Reported for: #511 Mustela (putorius s. vulgaris t. h.).

sepifera Jord. & Roths., 1920, Ectoparasites, v. 1 (2), Jan. 20, 96-98, figs. 80-82: Amphipsylla.—Zerm a t t ^t, Switzerland.—Reported for: #511 Mustela (nivalis nivalis). Continued in later bulletins; Hypudaeus (glareolus helveticus t. ln.).

sibiriea Wagner, 1898a, 578-579, pl. 8, figs. 13-14 (syn. penieilliger Grube ?) [Ctenopsyllus ^d]: Amphipsylla; Typhlopsylla¹; Palaeopsylla¹; Mesopsylla¹.—Turuehansk^t, Siberia.—Reported for: #511 Mustela (sibiriea t. h.).

—. Paraeeras Wagner, 1916, Ber. Mus. Zemstvo d. Taurisch. Gouv., Simferopol (for 1914), 4 [nv]; 1930, Katalog palaearkt. Aphanipt., 12, type melis Walker. Syn. Aeeratophyllus Ewing, 1929a, 169, 202,

tod. Ceratophyllus ¹ javanieus, fide Jordan, 1932, 267. < †1626.—Ext.

flabellum Wagner, 1916, Ber. Mus. Zemstvo d. Taurisch. Gouv. (for 1914), 5 [nv]; 1930, Katalog palaearkt. Aphanipt., 12: Paraceras.—Dscharkent t, Turkestan.—Reported for: #528 Meles (species t. h.).

javanicus Ewing, 1924, Parasitol., v. 16 (3), July, 351, pl. 14, fig. 5 [Ceratophyllus ¹]: Paraceras; Accratophyllus.—Gede ¹, Java.—Reported for: #552 Mephitis (species

t. h.).

melis Leach in Curtis, 1829, Guide Brit. Ins., 201 [Ceratophyllus ¹] [nomen nudum]; Walker, 1856a, 5 [Pulex ¹]: Paraceras; Triehopsylla ¹.—Brit. Isles ¹.—Syn. meles ¹.—Reported for: #485 Vulpes (species, vulpes); #511 Mustela (putorius); #528 Meles (anakuma, arenarius, species (badger t. h.), taxus ¹ so. meles meles).

—. Tarsopsylla, p. 842.—Ext.

[uralensis s, p. 842: Ceratophyllus l.— Europe.—Reported for: #485 Vulpes (species, vulpes); #511 Mustela (putorius); #521 Martes (martes, species, zibellina). Continued in later bulletins.]

—. Myoxopsylla Wagner, 1929, Konowia, v. 6 (2), June 20, 109, 113, mt. Ceratophyllus laverani.

[copulabilis & Weiss, 1917, Arch. Inst. Pasteur Tunis, v. 10 (1-2), Oct., 78-81, pl. unnumbered, figs. 1-2 [Ctenopsylla d]: Ceratophyllus!.— Tunisia *.—So. laverani, fide Weiss, 1929, 381.—Reported for: #540 Ietonyx (libyca).]

—. Oropsylla Wagner & Ioff, 1926, Rev. Microbiol. Epidemiol., v. 5 (1-2), 86-88, 120-121, tod. Ceratophyllus ¹ silantiewi; etd. (1928) ilovaiskii. <†1626.—Ext.</p>

[†*acutus *, p. 388; Ceratophyllus 1.— So. montanus, fide Jordan, 1929, 31.—Reported for: #552 Mephitis (species). Continued in later bulletins; Spermophilus (species t.h.).]

[*pocantis * Roths., 1905, Novit. Zool., v. 12 (1), Feb. 11, 155-156, pl. 7, figs. 22-23: Ceratophyllus 1.— Alberta; Arizona; Calif.—So. idahoensis, fide Jordan, 1929, 32.— Reported for: #511 Mustela (longicauda). Continued in later bulletins.]

rupestris Jordan, 1929, Novit. Zool., v. 35 (1), Jan., 32, pl. 1, figs. 8-9 [Ceratophyllus ¹]: Oropsylla.— Calgary ¹, Alberta.—Syn. labis Jord. & Roths., 1922, 275, ♀.—Reported for: #479 Canis (species); #511 Mustela (longicauda). Continued in later bulletins; Spermophilus (richardsoni t. h.).

—. Paradoxopsyllus, p. 490. < †1626.— Ext.

†eurvispinus, p. 490: Paradoxopsyllus.—Reported for: #413 Felis (catus). Continued in later bulletins.]

Foxella Wagner, 1929, Konowia, v. 8 (3), Sept. 25, 314-315, tod. Pulex ¹ ignotus. < †1626.—Ex†.

albertensis Jord. & Roths., 1915, Ectoparasites, v. 1 (1), Dec. 30, 56, figs. 58–60 [Ceratophyllus ¹ ignotus]: Foxella ignotus.—Blackfalls ¹, Alberta.—Reported for: #413 Felis (canadensis); #511 Mustela (species). Continued in later bulletins.

*franciscanus Roths., 1910, Ent. Mo. Mag., ser. 2, v. 21, Apr., 88–89, pl. 3, figs. 1–3 [Ceratophyllus ¹]: Foxella ignotus; Ceratophyllus ¹ ignotus.—San Franciseo ^t, Calif.—Reported for: #511 Mustela (xanthogenys). Continued in later bulletins; Thomomys (bottai t. h.).

recula Jord. & Roths., 1915, Ectoparasites, v. 1 (1), Dec. 30, 58, figs. 59, 61 [Ceratophyllus ingnotus]: Foxella ignotus.—Okanagan Landing i, Brit. Columbia.—Reported for: #511 Mustela (arizonensis t. h., species).

- †1627. Ceratophyllus ¹⁷⁶, pp. 388, 490, 665, 842.—Ext.
 - abantis Roths., 1905, Novit. Zool., v. 12 (1), Feb. 11, 164–165, pl. 6, fig. 10: Ceratophyllus.—Canada t.—Reported for: #511 Mustela (caudatus). Continued in later bulletins.
 - †*acamantis Roths., 1905, Novit. Zool., v. 12 (1), Feb. 11, 156–158, pl. 8, figs. 24–25: Ceratophyllus.— Canada t.—Reported for: #479 Canis (latrans); #511 Mustela (vison energumenos); #552 Mephitis (occidentalis spissigrada). Continued in later bulletins; also #12 Homo.
 - acasti * Roths., 1905, Novit. Zool., v. 12 (1), Feb. 11, 168-170, pl. 7, figs. 19-20: Ceratophyllus.—Quesnel t, Brit. Columbia.—So. pseudarctomys Baker, fide Jordan, 1929, 28.—Reported for: #511 Mustela (arizonensis). Continued in later bulletins; Sciuropterus (sabrinus t. h.).
 - agilis Roths., 1905, Novit. Zool., v. 12 (1), Feb. 11, 167-168, pl. 7, figs. 16-18 [Ceratophyllus]: Ceratophyllus sexdentatus.—Banff ^t, Alberta.—Reported for: #511 Mustela (longicauda); #511 Putorius (species). Continued in later bulletins; Neotoma (cinerea t. h.).
 - andersoni Roths., 1908, Proc. Zool. Soc. London, Part 3, Oct. 30, 628, pl. 31, fig. 19: Ceratophyllus.—Takamori ^t, Japan.—Reported for: #511 Mustela (itatsi t. h.).
 - anisus Roths., 1907, Novit. Zool., v. 14 (1), Mar. 20, 332–333, fig. 7: Ceratophyllus.—Yokohama ^t, Japan.—Reported for: #413 Felis (species t. h.).
 - apollinaris Jord. & Roths., 1921, Ectoparasites, v. 1 (3), Jan. 15, 176–177, figs. 163–164: Ceratophyllus.—Bogota⁺, Colombia.—Reported for: #511 Mustela (affinis t. h.).
 - atrox Jordan, 1925, Novit. Zool., v. 32 (1), Apr. 30, 112, fig. 45: Cera-

- tophyllus.—Blackfalls ^t, Alberta.—Reported for: #511 Mustela (species t. h.).
- caedens Jordan, 1925, Novit. Zool., v. 32 (1), Apr. 30, 104–105, figs. 16–17: Ceratophyllus; Ceratophyllus caedens.—Banff t, Alberta.— Reported for: #521 Martes (americana t. li.).
- *cyrturus Jordan, 1929, Novit. Zool., v. 35 (1), Jan., 34, pl. 1, fig. 14: Ceratophyllus eumolpi.—Paradise ^t, Ariz.—Reported for: #552 Mephitis (species t. h.).
- *dentatus Baker, 1904, Proc. U. S. Nat. Mus., v. 27 (1361), Feb. 16, 386, 390: Ceratophyllus.—Moscow ^t, Idalio.—So. fasciatus, fide Dalla Torre, 1924a, 13.—Reported for: #413 Felis (canadensis t. h.).
- *dieteri Fox, 1929, Ent. News, v. 40 (7), July, 218: Ceratophyllus nepos.—Los Angeles Co.*, Calif.—Reported for: #413 Felis (rufa t. h.).
- durus Jordan, 1929, Novit. Zool., v. 35 (1), Jan., 29–30, pl. 1, figs. 3a-g: Ceratophyllus caedens.—Okanagan ^t, Brit. Columbia.—Reported for: #511 Mustela (arizonensis t. h., species). Continued in later bulletins.
- †*fasciatus, pp. 388, 842: Ceratophyllus.—Reported for: #455 Mungos (mungo); #479 Canis (familiaris); #486 Alopex (lagopus); #511 Mustela (erminea, furo, nivalis, nivalis nivalis, noveboracensis, putorius, species (stoat), vulgaris); #521 Martes (foina foina, martes, martes martes, zibellina); #552 Mephitis (occidentalis). Continued in later bulletins.
- flaveolus Roths., 1909, Noviț. Zool., v. 16 (1), May 31, 57-58, pl. 9, fig. 6: Ceratophyllus.—Vienna i, Austria.—Reported for: #511 Mustela (erminea t. h.).
- fringillae Stephens in Walker, 1856a, 4-5 [Pulex]: Ceratophyllus,—Great Britain ^t.—Reported for: #413 Fe-

¹³⁶ Since this Bulletin went to press, the following important paper on *Ceratophyllus* and allied general has been published: Jordan, 1933, A survey of the classification of the American species of *Ceratophyllus* 3. lat. < Novit. Zool., v. 39 (1), Oct. 23, pp. 70-79.

- lis (catus [dom.]). Continued in later bulletins; Fringilla (species t. h.).
- {furoris * Dale, 1878, Hist. Glanvilles Wootton, 291 [Pulex *] [nv]; Roths., 1903, Ent. Mo. Mag., v. 39 (469), June, 145: Pulex *!.—Glanvilles Wootton *, England.—So. fasciatus.—Reported for: #511 Mustela (furo t. h.).]
- †gallinae, pp. 388, 665: Ceratophyllus.—Europe.—Reported for: #511 Mustela (putorius). Continued in later bulletins; Gallus (domesticus t. h.).
- *howelli Jordan, 1925, Novit. Zool., v. 32 (1), Apr. 30, 109, fig. 35: Ceratophyllus.—Pine City ^t, Calif.—Reported for: #511 Mustela (arizonensis). Continued in later bulletins.
- kaznakovi Wagner, 1929, Ann. Mus. Zool. Acad. U. R. S. S., v. 30 (1), 22–23, fig. 3: Ceratophyllus.—E. Tibet '.—Reported for: #511 Mustela (species); #511 Putorius (species).
- *labiatus Baker, 1904, Proc. U. S. Nat. Mus., v. 27 (1361), Feb. 16, 387, 402-403, pl. 19, figs. 6-9: Ceratophyllus.—Moscow ^t, Idaho.—Reported for: #413 Felis (canadensis t. h.).
- labis Jord. & Roths., 1922, Ectoparasites, v. 1 (4), Sept. 1, 275, figs. 267–268: Ceratophyllus.—Calgary ^t, Alberta.—Reported for: #511 Mustela (longicauda t. h.).
- *lucidus * Baker, 1904, Proc. U. S. Nat. Mus., v. 27 (1361), Feb. 16, 388, 410-411, pl. 20, figs. 5-9: Ceratophyllus.—Pagosa Peak *, Colo.—So. vison, fide Jordan, 1929, 35.—Reported for: #479 Canis (latrans). Continued in later bulletins; Sciurus (fremonti t. h.).
- lunatus Jord. & Roths., 1920, Ectoparasites, v. 1 (2), Jan. 20, 89-90, fig. 79: Ceratophyllus.—Zermatt ', Switzerland.—Reported for: #511 Mustela (erminea, nivalis nivalis t. h.).
- *mononis Jordan, 1929, Novit. Zool., v. 35 (1), Jan., 35, pl. 1, figs. 17-18;

- Ceratophyllus ciliatus.—Pine City *, Calif.—Reported for: #511 Mustela (arizonensis). Continued in later bulletins.
- monstrosus Wagner, 1929, Ann. Mus. Zool, Acad. Sci. U. R. S. S., v. 30 (1), 24-25: Ceratophyllus.— Bairam-Ali ".—Reported for: #511 Mustela (species). Continued in later bulletins; Meriones (species t. h.).
- mustclae * Dale, 1878, Hist. Glanvilles Wootton, 291 [Pulex *] [nv]; Roths.. 1903, Ent. Mo. Mag., v. 39 (469), June, 145; Ceratophyllus.—Glanvilles Wootton *, England.—So. penicilliger Grube, 1852, fide Roths., 1920, 77.—Reported for: #511 Mustela (erminea, species (weasel) t. h.). Continued in later bulletins.
- mustelae h s [p. 842] Wagner, 1898a: Ceratophyllus.—Lublin Govt. Lublin Govt. So. turbidus, fide Roths., 1920, 77.—Reported for: #511 Mustela (putorius s. vulgaris h t. h.). Continued in later bulletins.
- nepos Roths., 1905, Novit. Zool., v. 12 (1), Feb. 11, 168, pl. 7, figs. 13-14: Ceratophyllus; Ceratophyllus nepos; Ceratophyllus wickhami ¹.—Chilliwack ^t, Brit. Columbia.—Reported for: #553 Spilogale (phenax latifrons t. h.).
- *nevadensis Jordan, 1929, Novit. Zool., v. 35 (1), Jan., 30, pl. 1, fig. 4: Ceratophyllus sexdentatus.—Pine City ^t, Calif.—Reported for: #511 Mustela (arizonensis t. li.).
- *oculatus * Baker, 1904, Proc. U. S. Nat. Mus., v. 27 (1361), 387, 396–397, pl. 19, figs. 10–14: Ceratophyllus.—Washington t, D. C.—So. fasciatus, fide Jordan, 1929, 33.—Reported for: #511 Mustcla (vison t. h.).
- *ophidius Jordan, 1929, Novit. Zool., v. 35 (1), Jan., 36, pl. 2, fig. 20: Ceratophyllus wagneri.—San Francisco , Calif.—Reported for. #511 Mustela (xanthogenys).
- *pansus Jordan, 1925, Novit. Zool., v. 32 (1), Apr. 30, 109, fig. 38: Ceratophyllus.—Paradise⁻¹, Ariz.—

- Reported for: #552 Mephitis (species). Continued in later bulletins.
- penicilliger Grube, 1851, Midden. Sibirische Reise, v. 2 (1), 500–501, pl. 32, figs. 7, 9 [Pulex ¹]: Ceratophyllus.—Turuchansk ^t, Siberia.—Syn. mustelae ^s Dale, 1878, fide Roths., 1920, 77.—Reported for: #511 Mustela (erminea, sibirica t. h.). Continued in later bulletins.
- *pctiolatus Baker, 1904, Proc. U. S. Nat. Mus., v. 27 (1361), Feb. 16, 388, 415-416, pl. 18, figs. 7-13: Ceratophyllus.—Moscow t, Idaho.—Reported for: #413 Felis (canadensis t. h.).
- *poncrus Roths., 1909, Novit. Zool., v. 16 (1), May 31, 54-55, pl. 8, fig. 5: Ceratophyllus.—Palo Alto ', Calif.—Reported for: #485 Vulpes (species t. h.).
- sciurorum, p. 842: Ceratophyllus.—
 Europe.—Reported for: #511 Mustela (erminea, nivalis, nivalis nivalis, putorius); #521 Martes (foina foina, martes); #528 Meles (taxus so. mcles meles). Continued in later bulletins; Sciurus (species t. h.).
- *sibynus Jordan, 1925, Novit. Zool., v. 32 (1), Apr. 30, 110-111, fig. 42: Ccratophyllus.—Paradise ^t, Ariz.— Reported for: #552 Mephitis (species t. h.).
- *species Harper, 1929, N. Y. State Mus. Handb., no. 8, 73: Ceratophyllus.—Indian Lake ^t, N. Y.— Reported for: #511 Mustela (noveboracensis t. li.).
- thambus Jordan, 1929, Novit. Zool., v. 35 (1), Jan., 36, pl. 2, fig. 21: Ceratophyllus.—Red Deer t, Alberta.—Reported for: #413 Lynx (species t. h.).
- *vison Baker, 1904, Proc. U. S. Nat. Mus., v. 27 (1361), Feb. 16, 388, 408-410: Ceratophyllus.—Peterboro , N. Y.—Syn. lucidus , fide Jordan, 1929, 35.—Reported for: #511 Mustela (noveboracensis, vison t. h.). Continued in later bulletins.

- walkeri, p. 842: Ceratophyllus.—Chat tenden ', Kent, England.—Reported for: #511 Mustela (erminea, vulgaris) Continued in later bulletins; Mus (species t. h.).
- *wickhami Baker, 1895, Canad. Ent., v. 27, Apr., 109 (2), 111 (4) [Pulex]: Ceratophyllus.—Iowa City , Iowa.—Reported for: #511 Mustela (arizonensis); #561 Procyon (lotor). Continued in later bulletins; Sciuropterus (volans t. h.).
- †1628. Hoplopsyllus, p. 388. Etd. (1930) 4th sp. glacialis.
 - †*anomalus, p. 388: Hoplopsyllus.— Reported for: #479 Canis (species (coyote)). Continued in later bulletins; Citellus (species t. h.).
 - exolicus Jord. & Roths., 1923, Ectoparasites, v. 1 (5), Nov. 20, 311–312, fig. 314: Hoplopsyllus.—Boquete^t, Panama.—Reported for: #413 Fclis (species t. h.).
 - *lynx Baker, 1904, Proc. U. S. Nat. Mus., v. 27 (1361), Feb. 16, 378, 383-384, pl. 10, figs. 7-11; pl. 11, figs. 1-2 [Pulex]: Hoplopsyllus glacialis; Hoplopsyllus.—Moscow t, Idaho.—Reported for: #413 Felis (canadensis t. h.).
 - profugus Jordan, 1925, Novit. Zool., v. 32 (1), Apr. 30, 103: Hoplopsyllus glacialis.—E. Turkestan .—Reported for: #511 Mustela (erminea t. h.).
- †1630. TUNGIDAE, p. 388, 843.
- †1631. Tunga, pp. 389, 490.—Ext., gravid \mathcal{P} subcut. Syn. Psammodes \mathcal{P} Gistel in Gistel & Broome, 1850, Handb. d. Naturg., 506, mt. penctrans [not Psammodes Kirby, 1819, Coleopt.].
 - [eanis * Westw., 1840b, 203 [nomen nudum]: Sarcopsylla °.—S. America '.—So. penetrans, fide Jord. & Roths., 1907, 69.—Reported for: #479 Canis (familiaris t. h.).
 - †penctrans, pp. 389, 490: Tunga; Psammodes h; Sarcophaga h.—S. America t.—Reported for: #413 Felis (catus [dom.], lco); #479 Canis (familiaris). Continued in later bulletins.

[species Roths., 1903, Novit. Zool., v. 10 (2), Aug. 25, 315: Sarcopsylla.—Wante t.—Reported for: #479 Canis (mesomelas t. h.).]

-. Hectopsylla, p. 666.-Ext.

broscus Jord. & Roths., 1906, Thompson Yates & Johnston, Lab. Rept., v. 7 (1), Feb., 60-61, pl. 4, fig. 29: Hectopsylla.—Pampa Central t, Argentina.—Reported for: #550 Conepatus (humboldtii t. h.).

coniger Jord. & Roths., 1906, Thompson Yates & Johnston Lab. Report, v. 7 (1), Feb., 59-60, pls. 1-2, 4, figs. 5, 9, 16, 30: Hectopsylla.—Pampa Olliga t, Bolivia.—Syn. conigera e 1924.—Reported for: #550 Conepatus (arcquipae t. h.).

stomis Jordan, 1925, Novit. Zool., v. 32 (1), Apr. 30, 96, fig. 1: Hectopsylla.—Buenos Aires t, Argentina.—Reported for: #552 Mephitis (species). Continued in later bulletins.

†1633. Echidnophaga, pp. 389, 490, 666, 843.—Ext.

bradyta Jord. & Roths., 1906, Thompson Yates & Johnston Lab. Rept., v. 7 (1), Feb., 47-49, pl. 2, figs. 13, 19, pl. 3, fig. 23: Echidnophaga.— Deelfontein ^t, Cape Colony.—Reported for: #413 Felis (catus); #448 Suricata (suricatta suricatta, tetradactyla); #450 Cynictis (penicillata); #540 Ictonyx (striata). Continued in later bulletins.

†*gallinacea, pp. 389, 490, 843: Echidnophaga.—Reported for: #413 Felis (catus, rubiginosa); #448 Suricata (suricatta suricatta, tetradactyla); #450 Cynictis (penicillata);
#451 [Galerclla] (gracilis badius,
[ratlamuchi]); #462 Ichneumia (albicauda); #464 Herpestes (birmanicus, species); #479 Canis (familiaris). Continued in later bulletins; Gallus domesticus t, h.

larino, p. 843: Echidnophaga.—Africa.—Reported for: #413 Felis (pardus, pardus leopardus, pardus melanotica); #464 Herpestes (pulverulentus); #469 Hyaena (crocuta); #479 Canis (familiaris). Continued in later bulletins.

tarda Jordan, 1925, Novit. Zool., v. 32 (1), Apr. 30, 96-97, fig. 2: Echidnophaga.—Addis Abeba Abyssinia.—Reported for: #413 Felis (manicata); #469 Hyaena (species).

†1634. PULICIDAE, p. 389.

†1635. Pulex, pp. 389, 843.—Ext.

concpati Cunha, 1914, Mem. Inst. Oswaldo Cruz, v. 6 (2), 132–134, fig. 3: Pulex.—Pinuhy t, Brazil.—Syu. concepati m 1915.—Reported for: #550 Conepatus (suffocans t. h.).

†*irritans, pp. 389, 843: Pulex.—Reported for: #413 Felis (caracal, catus [dom.], onca); #413 Lynx (species); #451 Galerella (gracilis); #466 Proteles (cristatus); #479 Canis (aureus, familiaris, griseus, lupus, mesomelas, species); #484 (zerda); #485 Vulpes Fennecus (species, velox, vulpes, vulpes niloticus); #511 Mustela (putorius); #528 Meles (taxus so. meles meles); #544 Taxidca (taxus); #550 Concpatus (arequipae, chorensis); #552 Mephitis (occidentalis, species); #561 Procuon (psora). Continued in later bulletins.

†1635A. Rhopalopsyllus, pp. 389, 666, 844.—Ext.

bohlsi Wagner, 1901a, May 10, Old Style (Julian) = May 23, New Style (Gregorian), 21-22, pl. 1, fig. 6 [Pulex 1]: Rhopalopsyllus.—Paraguay t.—Syns.: gwyni, ? occidentalis, fide Dalla Torre, 1924a, 22.—Reported for: #552 Mcphitis (species). Continued in later bulletins.

†lugubris Jord. & Roths., 1908, Parasitol., v. 1 (1), Mar., 74-75, pl. 3, fig. 12, pl. 6, fig. 9: Rhopalopsyllus.—Charuplaya t, Bolivia.— Reported for: #413 Felis (species); #477 Icticyon (venaticus t. li.). Continued in later bulletins; also for #12 Homo.

lutzi Baker, 1904, Proc. U. S. Nat. Mus., v. 27(1361), Feb. 16, 380–381 [Pulex]: Rhopalopsyllus lutzi.—São Paulo , Brazil.—Reported for: #547 Grison (vittata t. h.). Continued in later bulletins.

rimatus Jordan, 1932, Novit. Zool., v. 38 (1), Dec. 30, 292: Rhopalopsyllus.—Sapucay ', Paraguay.— Syn. bohlsi Jord. & Roths., 1908 and 1923, misdet.—Reported for: #552 Mephitis (species).

sacrus Jord. & Roths., 1923, Ectoparasites, v. 1 (5), Nov. 20, 325, fig. 332: Rhopalopsyllus cacicus.— La Cabima [†], Panama.—Reported for: #413 Felis (mearnsi t. ll.). Continued in later bulletins.

samuelis Jord. & Roths., 1923, Ectoparasites, v. 1 (5), Nov. 20, 331-332, figs. 342, 344: Rhopalopsyllus klagesi.—San Esteban , Venezuela.—Syn. klagesi Jord. & Roths., 1922, 269.—Reported for: #413 Felis (mearnsi). Continued in later bulletins.

†*sigmodoni Stewart, 1930, Canad. Ent., v. 62 (8), Aug. 30, 175-178, pl. 15, figs. 1-2: Rhopalopsyllus.— Houston t, Texas.—Reported for: #479 Canis (familiaris). Continued in later bulletins; Sigmodon (hispidus t. h.); also for #12 Homo.

tamoyus Jord. & Roths., 1923, Ectoparasites, v. 1 (5), Nov. 20, 328–329, figs. 340–341: Rhopalopsyllus australis.—San Bernardino , Paraguay.—Reported for: #525 Tayra (barbara). Continued in later bulletins.

tupinus Jord. & Roths., 1923, Ectoparasites, v. 1 (5), Nov. 20, 328, fig. 339: Rhopalopsyllus australis.— Bolivia ¹.—Reported for: #477 Icticyon (venaticus t. h.).

†1636. Xenopsylla, pp. 389, 666, 844.— Ext.

†astia, pp. 389, 844: Xenopsylla.— Reported for: #413 Fclis (chaus); #485 Vulpes (bengalensis). Continued in later bulletins; Rattus (species t. h.).

tbrasiliensis, p. 490: Xcnopsylla.— Syn. vigetus, fide Jordan, 1926, 611.- Reported for: #469 Hyaena (striata). Continued in later bulletins.

†*elicopis, pp. 389, 666, 844; Xenopsylla. Reported for: #413 Felis (catus [domestica]); #433 Genetta (dongolana); #479 Canis (species); #511 Mustela (nudipes nudipes). Continued in later bulletins.

†eridos Roths., 1904, Novit. Zool., v. 11 (2), Sept. 12, 611, pl. 8, fig. 21, pl. 9, fig. 23 [Pulex]: Xenopsylla; Loemopsylla ——Carries plague.—Deelfontein , Cape Colony.—Reported for: #485 Vulpes (species). Continued in later bulletins; Otomys (branti t. h.); alsofor #12 Homo].

erilli Roths., 1904, Novit. Zool., v. 11 (2), Sept. 12, 610-611, pl. 8, figs. 16-17, pl. 9, fig. 22 [Pulex]: Xenopsylla; Locmopsylla .—Deelfontein , Cape Colony.—Reported for: #448 Suricata (suricatta suricatta, tetradactyla); #450 Cynictis (penicillata); #464 Herpestes (species); #540 Ictonyx (striata). Continued in later bulletins.

nubicus, pp. 666, 844: Xenopsylla.— Carries plague.—Africa.—Reported for: #413 Felis (oereata); #433 Genctta (dongolana); #462 Ichneumia (albicauda). Continued in later bulletins.

ramesis Roths., 1904, Ent., v. 37(488), Jan., 2-3, pl. 1, fig. 2 [Pulex]: Xenopsylla; Loemopsylla *.—Bir Victoria t, Egypt.—Reported for: #511 Mustela (numidica). Continued in later bulletins.

-. Synosternus, p. 844.-Ext.

caffer Jord. & Roths., 1923, Eetoparasites, v. 1 (5), Nov. 20, 293-294, figs. 282-284 [Xenopsylla]: Synosternus.—S. Africa —Reported for: #433 Genetta (senegalcnsis). Continued in later bulletins.

cleopatrae, p. 844: Synosternus.—Africa.—Reported for: #540 Ietonyx (libyca). Continued in later bulletins.

†pallidus, pp. 389, 844: Synosternus.—
Africa.—Reported for: #464 Herpestes (ichneumon t. h.); #469
Hyaena (hyaena); #479 Canis (familiaris); #483 Fennecus (famelicus); #485 Vulpes (ráppelli caesia, species, vulpes aegyptiaca, vulpes niloticus). Continued in later bulletins.

- somalicus Jord. & Roths., 1908, Parasitol., v. 1 (1), Mar., 37-38, pl. 3, fig. 8 [Loemopsylla 1]: Synasternus; Xenopsylla 1.—8. Somaliland t.—Reported for: #469 Hyaena (striata); #479 Canis (familiaris). Continued in later bulletins; Sciurus (species t. h.).
- [witherbyi's, p. 844: Pulex 1.—Africa.— Reported for: #469 Hyacna (hyacna); #485 Vulpes (vulpes uiloticus)]
- Procaviopsylla Jordan, 1925, Novit.
 Zool., v. 32 (1), Apr. 30, 102, tod.
 isidis Roths., 1903. < †1634.—
 Ext.
 - creusae Roths., 1904, Novit. Zool., v. 11(2), Sept. 12, 608-610, pls. 8-9, figs. 18, 25 [Pulex ¹]: Procaviopsylla; Loemopsylla ¹; Xenopsylla ¹.—Reported for: #413 Felis (caracal). Continued in later bulletins.
 - divergens Jord. & Roths., 1908, Parasitol., v. 1 (1), Mar., 57, pl. 2, fig. 10, pl. 4, fig. 2 [Loemopsylla ¹]: Pracaviopsylla; Xenopsylla ¹.—Deelfontein ¹, Cape Colony.—Syn. convergens ¹ 1925.—Reported for: #413 Felis (caracal). Continued in later bulletins.
 - isidis Roths., 1903, Novit. Zool., v. 10 (2), Aug. 25, 313–314, pl. 5, figs. 2, 5, 6, 8 [Pulex ¹]: Procavio-psylla; Loemopsylla¹; Xeno-psylla¹.—Harar ¹, Abyssinia.—Reported for: #479 Canis (familiaris). Continued in later bulletins; Procavia (erlangeri t. h.).
- †1638. Archaeopsylla, pp. 390, 666, 845.—Ext.
 - †erinacci, pp. 390, 845: Archaeopsylla.—Europe.—Reported for: #485 Vulpes (vulpes); #511 Mustela (putorius). Continued in later bulletins.
- †1639. Ctenocephalides, p. 844.—Ext. †*canis,18 pp. 390, 490, 844: Ctenocephalides; Ctenocephalus 1.—Reported for: #413 Felis (catus [dom.], jagnarondi, macrocelis, ligris); #433 Genetta (suahelica); #435 Civetticlis (civetta); #448 Su-

- ricata (suricatta); #450 Cynictis (penicillata); #458 Atilax (galera robusta); #464 Herpestcs (ichneumon); #469 Hyacna (striata); #479 Cauis (dingo, familiaris t. h., lateralis, mesomelas, species); #480 Otocyon (megalotis); #483 Fennecus (brucei so. zerda); #485 Vulpes (alpherakyi, species, vulpes, vulpes crucigera); #486 Alopex (lagopus); #488 Uracyan (cinereoargentcus); #561 Procyon (lotor); #563 Nasua (solitaria). Continued in later bulletins.
- [concoloris Weyenbergh, 1881a, 274: Pulex 1.—Argentina 1.—So. ?felis, fide Dalla Torre, 1924a, 21.—Reported for: #413 Felis (concolor t. h., cancolor puma).]
- connatus, p. 845: Ctcnocephalides.—
 Africa.—Reported for: #448 Suricata (suricatta); #450 Cynictis (penicillata); #451 [Galerclla] (gracilis badius); #540 Ictonyx (striata).
 Continued in later bulletins.
- conversus Jord. & Roths., 1913, Novit. Zool., v. 20 (3), Oct. 21, 531-532, figs. 3-5 [Ctenocephalus^h]: Ctenocephalides.—Mutaragwa^t, Brit. E. Africa.—Reported for: #433 Genetta (stuhlmanni). Continued in later bulletins.
- craterus Jord. & Roths., 1913, Novit. Zool., v. 20 (3), Oct. 21, 532-535, figs. 6-8 [Ctenocephalus h]: Ctenocephalides.—Mutaragwa h. Brit. E. Africa.—Reported for: #433 Genetta (stuhlmanni). Continued in later bulletins.
- [†enueadus *, p. 390: Ctenoeephalus *.— So. felis.—Reported for: #413 Felis (catus [dom.]); #479 Canis (familiaris).]
- †*felis, pp. 390, 490: Ctenocephalides; Ctenocephalus h.—Reported for: #413 Felis (catus [dom. t. h.], concolor, jaguarondi, leo, macroura, pardalis, pardus lcopardus, species, tigris); #427 Paradocurus (hermaphroditus, tytleri); #428 Arctictis (species); #438 Viverricula (indica);

is The host records for Ctenocephalides canis and C. felis are somewhat confused in literature. Earlier authors, notably Baker, 1904 and 1905, considered canis and felis identical. Hosts cited by these authors for canis are in fact for canis+felis. It is possible that certain African records for felis refer to felis orientis or felis strongylus.

#464 Herpestes (birmanicus, brachyurus brachyurus, ichneumon funestus); #479 Canis (azarac, culpaeus magellanicus, dingo, familiaris, gracilis, species); #483 Fennecus (zerda); #485 Vulpes (vulpes, vulpes atlantica); #563 Nasua (socialis); #570 Ailurus (fulgens). Continued in later bulletins.

[nasuac Weyenbergh, 1881a, 272: Pulex '.—Argentina '.—So. ? felis, fide Dalla Torre, 1924a, 21.—Reported for: #563 Nasua (socialis t. h.).]

[†novemdcutatus °, p. 390: Ctenoce-phalus h.—Europe.—So. canis.— Reported for: #413 Felis (catus [dom.]); #479 Canis (familiaris).]

[obscurus Weyenbergh, 1881a, 273-274: Pulex 1.—Argentina t.—So. ? felis, fide Dalla Torre, 1924a, 21.—Reported for: #479 Canis (azarae, gracilis).]

[†serraticeps °, p. 390: Ctcnocephalides; Ctenocephalus h.—Reported for: #413 Felis (catus [dom.], jaguarondi, macrocelis); #469 Hyaena (striata); #479 Canis (familiaris); #483 Fennecus (brucei so. zerda); #485 Vulpes (species); #511 Mustela (putorius); #561 Procyon (lotor). Continued in later bulletins.]

strongylus Jordan, 1925, Novit. Zool., v. 32 (1), Apr. 30, 98-99 [Ctenocephalus ^h felis]: Ctenocephalides felis.—Voi ^t, Kenya Colony.—Reported for: #413 Felis (ocrcata); #479 Canis (familiaris, lateralis t. h.); #485 Vulpes (pallida).

Spilopsyllus Baker, 1905, Proe.
 U. S. Nat. Mus., v. 29 (1417),
 Oct. 3, 129, 131, 145, tod. leporis
 Leach. < †1634.—Ext.

†cuniculi Dale, 1878, Hist. Glanvilles Wootton, 291 [Pulex I] [nv]; Roths., 1903, Ent. Mo. Mag., v. 39 (469), June, 145: Spilopsyllus.—Glanvilles Wootton I, England.—So. lcporis, fide Baker, 1905, 145.—Reported for: #413 Felis (catus, catus ferus so. silvestris); #485 Vulpes (species). Continued in later bulletins; Lepus (cuniculus t. h.); also for #12 Homo.

[goniocephalus Taseh., 1880a, 82-83, pl. 3, fig. 20 (leporis renamed): Pulex '.—Europe'.—Syn. cuniculi 's.—Reported for: #485 Vulpes (vulpes). Continued in later bulletins.]

lcporis • Leach in Curtis, 1829, Guide Brit. Ins., 201 [Ceratophyllus ¹] [nomen nudum]; Tasch., 1880a, 82–83, pl. 3, fig. 20 (renamed goniocephalus): Spilopsyllus; Ctenocephalus ^h ¹; Pulex ¹. — British Isles ^t.—Syn. cuniculi ^s, fide Dampf, 1908, 18.—Reported for: #485 Vulpes (vulpes). Continued in later bulletins; Lepus (species t. h.).

Cediopsylla Jordan, 1925, Novit.
 Zool., v. 32 (1), Apr. 30, 103, tod.
 simplex Baker, 1895. < †1634.—
 Ext.

*inaequalis Baker, 1895, Canad. Ent., v. 27, 163 (2), 164 (3)— 165 (4) [Pulex]: Cediopsylla; Spilopsyllus —Arizona t.—Reported for: #479 Canis (latrans). Continued in later bulletins.

*interrupta Jordan, 1925, Novit. Zool., v. 32 (1), Apr. 30, 103: Ccdiopsylla inacqualis.—Calif.t—Reported for: #485 Vulpcs (species). Continued in later bulletins.

Megarthroglossus Jord. & Roths.,
 1915, Ectoparasites, v. 1 (1), Dec.
 30, 46, tod. procus. < †1634.
 Ext.

procus Jord. & Roths., 1915, Eetoparasites, v. 1 (1), Dec. 30, 47–50, figs. 50–52: Megarthroglossus.— Brit. Columbia t.—Reported for: #553 Spilogalc (species t. h.). Continued in later bulletins.

sicamus Jord. & Roths., 1915, Ectoparasites, v. 1 (1), Dec. 30, 50-52, figs. 49, 53-54: Megarthroglossus.— Sicamous ^t, Brit. Columbia.—Reported for: #479 Canis (latrans t. h.).

Anomiopsyllus Baker, 1904, Proc. U. S. Nat. Mus., v. 27 (1361), Feb. 16, 377, 425-426, tod. mt. Typhlopsylla inudata Baker. < †1634.— Ext.

*californicus * Baker, 1904, Invert. Paeifica, v. 1, Feb. 10, 39-40; Anomiopsyllus.—Claremont t, Calif.—So. nudatus, fide Jord. & Roths., 1915, 45.—Reported for: #553 Spilogale (phenax t. h.).

*falsicalifornicus Fox, 1929, Ent. News, v. 40 (7), July, 218: Anomiopsyllus.—Los Angeles ', Calif.— Syn. californicus d Fox, 1926, 183–184, fig. 9, misdet.—Reported for: #553 Spilogale (phenax). Continued in later bulletins.

nudatus Baker, 1898, J. N. Y. Ent. Soc., v. 6 (1), Mar., 56 [Typhlopsylla ¹]: Anomiopsyllus.— Tucson ^t, Ariz.—Syn. californicus ^{}, fide Jord. & Roths., 1915, 45.—Reported for: #552 Mephitis (species). Continued in later bulletins; Neotoma (albigula t. h.).

#408 (489). Auditory bulla inflated. See #409.

#409 (467). Mastoid air space absent; squamosal and exoccipital bones lie close against wall of entotympanic. See #410.

#410 (417). Pm₂ absent. See #411 and also #465.

#411 (416). FELIDAE 19 Gray, 1821, London Med. Repos., v. 15, 302.—Cats, lions, lynxes, tigers, etc. Head short, rounded; digitigrade, toes 5-4 with

The subdivision of Felis 1 by various authors presents such divergent views that the problem is presented to recognize as many of the resulting groups as possible without being too inconsistent. In general, in cases of transitional classification of this nature the more conservative course seems to be to hold to broad genera but to recognize subgenera. There seems little room for doubt that #415 Cynailurus separates from #413 Felis 1 very distinctly, on basis of the claws. Regarding a number of the other genera there appears to be more room for difference of opinion. #413n Lynx is recognized as generically distinct by many authors, but Pocock's key brings it close to #413m Felis r.

For purpose of this eatalog, and holding an open mind as to eventual future developments, the most practical course seems to be to use Fetis¹ in a broad generic sense and to recognize the other divisions as subgenerie. To emphasize the point that Pocock recognizes these subgenera as generic, the subgeneric names adopted by him as generic are here placed in heavy type, instead of italies. Synonymy is given under the names in Pocock's key.

For monograph of the FELIDAE see Lydekker, 1896a, A Hand-book to the Carnivora, pt 1, eats, civets, mungooses, London, 1-312, pls. 1-32.

Poeoek (1917, Ann. Mag. Nat. Hist., v. 20 (199), Nov., 329–350) has divided the felidae into 3 subfamilies and numerous genera. Miller, 1924a, combines the classifications of Cabrera, 1911, Pocoek, 1917, and Allen, 1919, but be retains only as "groups" of the genus Felis many of the genera recognized by Allen and Pocoek. For practical purposes these groups of Miller are essentially subgenera. For purposes of this Key-Catalog, the genus Felis is adopted in a broad sense with Pocoek's genera and Miller's "groups" inserted as subgenera, but brought into promineuce by the use of heavy type.

The following key leads to the genera and synonymy recognized by Pocock, 1917, and will be found very useful in tracing species, regardless of the point whether one agrees with Pocock or not in respect to the taxouomic grades ascribed to the units he recognizes. See #413a.

#\$13a(b'). Suspension of hyoid normally ossified, holding larynx close up to base of skull and restricting its movement. FELINAE * of Pocock, 1917, Ann. Mag. Nat. Hist., 8th ser., v. 20 (199), Nov., 332. See #413b.

#413b(c). Neofelis Gray, 1867, Proc. Zeol. Soc. London, 265-266, tsd. (1917; 1929) 1st sp. nebulosa Griff. = macrocclis Horsf.—Very loug upper canines, immense postcanine space; cliin long and vertical; nasals broad throughout, their maxillo-premaxillary suture almost straight; postcrbital processes very short; occiput angular above. E. Himalayas to Borneo.

#413c(b). Without the combination of characters cited for Neofelis. See #413d.

#413 $d(\epsilon)$. Ictailurus Severtzow, 1858, Rev. Mag. Zool., Paris, 2d ser., v. 10, Sept., 387-388, 390, mt. planiceps Vigors & Horsfield.—First upper premolar long, conical, 2-rooted; 1st lower premolar higher than 2d; postorbital bar complete, with slightly rounded posterior margin; condyle and angular set well behind broad rounded coronoid; tip of lower canine projecting high above lower edge of nares. Malay Peninsula to Borneo.

Syns.: Advin • • Kretzoi, 1929, Xth Internat. Congress Zool., Budapest, pt. 2, 1326, mt. rod. planic ps Vig. & Horsf.;

Acturing co Gill, 1872, Arrang. Fam., Mamm., 60, tsd. (1917) planiceps;

Ailurin · Gervais, 1855, Hist. Nat. Mamm., Paris, v. 2, 86-87, 1 fig., int. tod. planiceps:

Allurogale & Fitzinger, 1870 (for 1869), Sitz.-Ber. Akad. Wiss., Wien, v. 60, Abt. 1, 249, nut. planiceps;

Plathaelurus no Kretzoi, 1929, Xth Internat. Congr. Zool., Budapest, pt. 2, 1329;

Plethaelurus . Cope, 1882, Proc. Amer. Philos. Soc., Phila., v. 20 (112), Nev. 20, 475, tod. planiceps.

claws sharp, enrved, completely retractile (except #415 Cynailurus). Dental formula: i. 3/3, c. 1/1, pm. 3/2 or 2/2, m. 1/1. Larger cheek-teeth of a strictly trenchant type, their crowns compressed and high, without crushing surfaces, last upper premolar and first lower molar presenting extreme phase of carnassial modification; inner lobe of upper carnassial (3 lobes to blade) small, in front of middle of crown; upper molar rudimentary, narrow, trenchant, the main axis of its crown transverse to tooth-row; auditory bulla highly inflated, divided into 2 chambers by a transverse partition (septum),

#413c(d). Without combination of characters shown in Idailurus. See #413f.

#113f(g). Leptailurus Severtzow, 1858, Rev. Mag. Zool., Paris. 2d ser., v. 10, Sept., 389, 300, mt. serval Schreb.—Rhinarium very large; ears nearly meeting on summit of head. Malar greatly expanded in front, where it is clamped externally to preorbital foramen; check low; narrow posteanine space. [Pupil circular.] Africa, mainly south of the Sahara.

Syns.: Galcopardus o Heuglin in Fitzinger, 1866, Sitz.-Ber. Akad. Wiss., Wien, v. 54 (10), Abt. 1, 557, mt. serval;

Lepailurus m Grevé, 1894, Nova Acta Leop., Halle, v. 63, 76;

Septailurus ^m Severtzow, 1858, Rev. Mag. Zool., Paris, 2d ser., v. 10, Sept., 390;

Serval h o Gray, 1867, Proc. Zool. Soc. London, 272 [not #413n Serval Brebin, 1864, lynx], tat. serval; Servalina o Grevé, 1894, Nova Acta Leop., Halle, v. 63, 76, mt. serval;

Servalinae Wagner, 1841, Schreber's Säugthiere, Suppl., v. 2, 505, 1st sp. F. serval.

##13g (f). Without combination of characters shown in Leptailurus. See #413h.

#413h (k). Outer chamber of bulla very large, extending in front of narrowed apex of inner chamber; groove of partition passing from stylomastoid foramen to basioecipital suture. See #413i.

#413i (j). Trichaelurus Satunin, 1905, Ann. Mus. Zool., St. Petersb., v. 9 (4), 495-496, tsd. (1917: 1929) manul Pall.—Face strongly sloped; upper rim of anterior nares nearly level with compressed lower rim of orbit; forehead and frontal postorbital processes very wide. [Pupil vertical.] Central Asia as far south as the western Himalayas.

Syns.: Otoea obus m 1917, Ann. Mag. Nat. Hist., v. 20 (119), Nov., 335:

Otocolobus h o Severtzow, 1858, Rev. Mag. Zool., Paris, 2d ser., v. 10, Sept., 386, 390, int. manul Pallas [not Otocolobus Brandt, 1844, spermophile];

Trichailurus • Allen, 1919, Bul. Amer. Mus. Nat. Hist., N. Y., v. 41, 338.

#413j (i). Dendrailurus Severtzow, 1858, Rev. Mag. Zool., Paris, 2d ser., v. 10, Sept., 386, 390, mt. strigitata Wagner so. colocolo H. Smith, 1824 [not colocola Molina, 1782].—Face not strongly sloped; upper rim of nares much higher than thickened lower rim of orbit; forehead narrow, postorbital processes slender. S. America; Guiana, Chile; Uruguay to Patagonia.

Syns.: Lynchailurus * Severtzow, 1858, Rev. Mag. Zool., Paris, 2d ser., v. 10, Sept., 386, 390, mt. pajeros Desni.;

Pajeros * Gray, 1867, Proc. Zool. Soc. London, 269, int. tat. pampanus Gray so. pajeros Desm. #413k (h). Outer chamber of bulla smaller or very small, not extending anteriorly in front of wider end of inner chamber, groove of partition passing to anterior edge of bulla. See #413k.

#4131 (a). Outer chamber of bulla comparatively large; partition rising some distance from erest of tympanic annulus. See #413m

#13m (n). Felis : Linn., 1758a, 41, tat. felis so. catus. etd. (1858) minuta.—Cats, Hinzen, Katzen. Nasal branch of premolars broad above behind nasal, then abruptly pointed; suborbital margins of palate deeply notched; upper pm¹ normally present. [Pupil vertical.] Central and S. Europe; S. Asia to Burma; Africa apart from western forested area.

Syns.: Cati Wagner, 1841, Schreber's Säugthiere, Suppl., v. 2, 532;

Catolynx o Severtzow, 1858, Rev. Mag. Zool., Paris, 2d ser., v. 10. Sept., 385, 387, 389, 390, tsd. (1917) catus, tsd. (1929) chaus Giild. [not #413r Catolynx h Gray, 1867];

Cattus Schmerling, 1834, Recherches Ossem-Foss., Liége, v. 2, 92, 94, pl. 18, figs. 23-24;

Catus • Frisch, 1775, Das Natur-Syst. vierfüss. Th., in Tab., 12, Tab. Gen. [new name for Felis] [nv]; Fitz., 1855, Wiss.-pop. Naturg. Säugeth., v. 1, 265, tat. catus (as domesticus+ferus);

Chaus . Gray, 1843, List Spec. Mamm. Brit. Mus., pp. xx, 14-45, tat. chaus=lybicus;

Microfelis Roberts, 1926. Ann. Transv. Mus., v. 11 (7), Sept. 14, 250, int. tod. *F nigripes Bureli.; "there is little doubt that the virtual absence of an internal cusp to the third upper premolar and the enlarging of the tympanic bullac, characters found in none of the allied species, are important and separation becomes necessary if classification is to stand for progress";

Otailurus Severtzow, 1858, Rev. Mag. Zool., Paris, 2d ser., v. 10, Sept., 388, 389, mt. megalotis Müller (domestic cut from Timor).

#413n (m). Lynx Kerr, 1792a, Anim. Kingd., Syst. Catal. Mamm., inserted between pp. 32 & 33, 41, 155, tat. lynx Linn. syn. rulgaris Kerr.—Lynxes, Enchsen. Nasal branch of premolars gradually attenuated above; suborbital margins of palate not deeply notched; upper pml absent or early decidnous. Boreal and temperate latitudes of northern hemispheres as far south as Mediterranean and Western Himalayas and Mexico (true tynxes); southwestern Asia and entire Africa (caracals).

not externally constricted. Alisphenoid canal absent. Carotid canal very minute. Form usually slender, legs moderately long; size moderate to large; metatarsus entirely hairy. Vertebrae: c.7, d.13, l.7, s.3, ca.13 to 29. Anal glands present. Entire continental region of both Old and New Worlds, to limits of tree growth; Malay Archipelago; in Europe west to Great Britain; not in Australia or Madagascar region. See #112.

Syns.: Caracal * Gray, 1813, List Spee. Mainm. Brit. Mus., 46, int. tal. caracal so. melanotis;

Caracala o * Gray, 1843, List Spec. Mamin. Brit. Mus., pp. xx [46], 202, mt. tvt. caracal so. melanotis;

Cervaria hos Gray, 1867, Proc. Zool. Soc. London, 276 [not Cervaria Walker, 4866, lepidopt.], tsd. (1901; 1924; 1929) 1st sp. pardina Temm. so. pardellus Miller (tsd. 1917);

Eucerraria * Palmer, 1903, Science, N. S., v. 17, May 29, 873 [for Cervaria h Gray, 1837], type by renaming (Art. 30f, Internat. Rules) pardina so pardellus;

[Linx * Frisch, 1775, Das Natur-syst vierfüss, Th. in Tab., 12, Tab., Gen. [nv], tsd. (1905) lynx Lina. Name not available.]

Lynces Wagner, 1841, Schreber's Saugthiere, Suppl., v. 2, 515;

Lynceus h • Gray, 1821, London Med. Repos., v. 15, 302, mt. *lynx* [not *Lynceus* Müller, 1776, Crnstacea], tsd (1917; 1929) *lynx* Linn.;

Lynchus • Gray in Jardine, 1834, Nat. Lib., Mannin., v. 2, 274, tsd. (1904; 1917) lynx Linn.;

Lynens o Gray, 1825, Ann. Philos., N. S., v. 10 (5), 339 [nomen nudum here], tsd. (1917; 1929) lynx: Pardina os Kaup, 1829, Entw.-Gesch. Natürl. Syst. Europ. Thierwelf., v. 1, 57, 189, int. tat. pardina so. pardellus;

Serval * Brohm, 1864, Führer Zool, Garten Hamburg, Anllage 6, 53 [nv] type maculatus, Algiers [not #413f Serval * Gray, 1867];

Urolynchus * Severtzow, 1858, Rev. Mag. Zool., Paris, 2d ser., v. 10, Sept., 389, 390, int. caracal. #4130 (l). Outer chamber of bulla small or very small; partition rising close to crest of tympanic annulus. See p.

#413p (q). *Puma Jardine, 1834, Nat. Lib., Mamun., v. 2, 266, tat. "the puma"=concolor Linn. (tsd. 1858; 1904; 1905; 1929); Severtzow, 1858, 123, mt. concolor syn. puma Molina.—[Pupil circular.] Skull short, rounded, zygomata wide, maxilla receding, not expanded above; palatine foramen in orbit very large, distance between it and orbital foramen only little greater than width of wide, short mesopterygoid fossa and than anterior nares; palate broad, sides of its posterior elongation widely divergent; postorbital processes short, blunt; occiput wide across mastoids. From the United States to Patagonia.

Syn. Unicolores & Grevé, 1894, Nova Acta Acad. Leop., Halle, v. 63, 48, tvt. (tpd.) 1st sp. concolor.

#413q (p). Without combination of characters shown in Puma. See #413r.

#413r (g). Pardofelis Severtzow, 1858, Rev. Mag. Zool., Paris, 2d ser., v. 10, Sept., 387, 390, n.t. marmorata.—Mesopterygoid fossa lanceolate in front, with very thick lateral edges or large external crest; skull short, broad and high. East Indies from Himalayas to Borneo.

Syn. Catolynx h o Gray, 1867, Proc. Zool. Soc. London, 267, tsd. (1917, 1929) 1st sp. marmorata [not #413m Catolynx Severtzow, 1858].

#413s (r). Without combination of characters shown in Pardofelis. See #413t.

#413t(u). Zibethailurus Severtzow, 1858, Rev. Mag. Zool., Paris, 2d ser., v. 10, Sept., 387, 390, mt. viverrina Bennett.—External pterygoid crest reduced to a small triangular lainina; preorbital thickening of malar very large; masseteric crest on malar remote from its lower edge; skull powerful, with strong constrictions and upper half of occiput narrow but rounded above; coronoid wide and rounded at summit. [Pupil circular.] India and Ceylon to S. China, Formosa and Tenasserim.

Syn. Viverriceps · Gray, 1867, Proc. Zool. Soc. London, 268, tat. viverriceps syn. bennettii Gray so. viverrina Benn. (tsd. 1917; 1929).

#413u(t). Without combination of characters shown in Zibethailurus. See #413v.

#413r(w). Prionailurus Severtzow, 1858, Rev. Mag. Zool., Paris. 2d ser., v. 10, Sept., 387, 396, Int. pardochrous Hodg. so. bengalensis Kerr.—Masseteric crost on malar remote from its inferior edge; narrowest point of preorbital constriction nearly over center of orbit; postorbital processes long, often confluent, occipital area narrow, its width across mastoids less than width of cranium, its sides hardly emarginate, its summit rather narrowly rounded, and its width halfway above condyles about equal to transcendylar width; portion of bulla behind stylomastoid smaller than that in front of it. Ceylon and India east to Borneo and Philippines and north into China and Amurland.

#413w(v). Without combination of characters shown in Prionallurus. See #413x.

##13r(y). Profelis Severtzow, 1858, Rev. Mag. Zool., Paris, 24 ser., v. 10, Sept., 386, 390, mt. celidogaster Temm. so. aurata Temm.—Skull powerfully developed with wide occiput, narrowest point of preorbital constriction nearly above center of orbital space, maxilla not expanded above but inclined back well beyond lacrymal foramen; area of bulla belind stylomastoid foramen much smaller than that in front of it; mandibles with 1st premolar much lower than carnassial, conclyle high above angular and well-developed submasseteric ridge. Himalayas and China to Indo-Malaysia; W. African forest region

- #412 (414). FELINAE Jardine, 1834, Nat. Lib., Edinburgh, v. 2, Mamm., 59, 265.—Without total suppression of cutaneous lobes guarding claws; tips of digits of both fore and hind feet furnished at least with a single cutaneous lobe protecting retracted claw on inner side of digits II and III and on outer side of digits IV and V. Syn. FELINA cd Turner, 1848, Proc. Zool. Soc. London, 87. See #413.
- #413. Felis 110 Linn., 1758a, 41, tat. felis so. catus, etd. (1900) leo, etd. (1858) minuta.—Cats, lions, lynxes, tigers, etc. Claws guarded, at least partially, by cutaneous lobes; completely retractile within their investing horny sheaths. Inner tubercle of upper carnassial tooth well developed. Practically cosmopolitan (with exception of Australia, New Zealand, New Guinea, perhaps Celebes, Madagascar, West India Islands (not including Trinidad)). See #413a.
 - Syns.: Catopuma * Severtzow, 1858, Rev. Mag. Zool., Paris, 2d ser., v. 10, Sept., 387, 390, mt. moormensis Hodg. so. temmincht Vig. & Hors.;
 - Chrysailurus Severtzow, 1858, Rev. Mag. Zool., Paris, 2d ser., v. 10, Sept., 389, 390, mt. neglecta Gray so. celidogaster Temm. so. aurata Temm.;
 - Crysailurus m Allen, 1919, Bul. Amer. Mus. Nat. Hist., N. Y., v. 41, 338;
 - Pyrofelis Gray, 1874, Ann. Mag. Nat. Hist., ser. 4, v. 14 (83), Nov., 354, mt. temmincki Vig. & Hors. syn. aurata Temm.
 - #413y(x) Without combination of characters shown in *Profelis*. See #4132.
- #413z(a'). *Leopardus Gray, 1842, Ann. Mag. Nat. Hist., v. 10 (65), Dec., 260, tsd. (1916; 1917) 1st sp. priseus Gray=? pardatis Linn. (tsd. 1929) tsd. (1905) leopardus Schreb.—Jaguars, ocelots, etc.—Feet fully webbed with well-developed claw-sheaths, hair on neek reversed in direction of growth. From Sonoran district of N. America southward throughout forested districts of S. America.
 - Syns.: Oncoides * Severtzow, 1858, Rev. Mag. Zool., Paris, 2d ser., v. 10, Sept., 386, 390, tsd. (1904; 1905; 1917) 1st sp. pardalis Linn.;
 - Pardatis os Gray, 1867, Proc. Zool. Soc. London, 270, tat. pardalis Linn.
- #413a'(z). *Herpailurus Severtzow, 1858, Rev. Mag. Zool., Paris, 2d ser., v. 10, Sept., 385, 390, tsd.. (1917; 1919; 1929) 1st sp. jaguarondi syn. (1919) eyra.—Fect with only moderately developed webs and clawsheaths, hair on neck not reversed. [Pupil circular.] From Texas in Sonoran area of North America as far south as Argentina and Chile. Contains: yaguarondi-group and geoffroyi-group.
 - Syns.: Margay * Gray, 1867, Proc. Zool. Soc. London, 271, tat. margay so. tigrina Schreb. (tsd. 1917; 1929); ctd. (1916) Felis ¹ macroura Wied so. Felis ¹ wiedi Schinz;
 - Noctifelis * Severtzow, 1858, Rev. Mag. Zool., Paris, 2d ser., v. 10, Sept., 386, 390, mt. guigna Molina;
 - Oncifelis Severtzow, 1858, Rev. Mag. Zool., Paris, 2d ser., v. 10, Sept., 386, 390, mt. geoffroyi Gerv.; Pardalina Gray, 1867, Proc. Zool. Soc. London, 266, mt. warwickii Gray so. himalayanus so. geoffroyi D'Orb. & Gerv. (tsd. 1905; 1917; 1929).
- #413b' (a). Suspensorium of hyoid imperfectly ossified, its inferior portion consisting of a larger or shorter elastic tendon conferring great mobility upon larynx, which is not held close up to base of skull. PANTHERINAE Poeock, 1917, Ann. Mag. Nat. Hist., 8th ser., v. 20 (199), Nov., 332. Contains Panthera and Uncia. See #413c'.
- #413c' (d'). Uncia Gray, 1854, Ann. Mag. Nat. Hist., 2d ser., v. 14 (83), Nov., 394, tat. uncia Schreb. so. irbis Ehrenb.—Outer chamber of bulla very large and involving entire anterior portion of its cavity, line of partition remote from meatus and running from stylomastoid foramen to a point on inner surface close to basioccipital suture; a narrow valley between bulla and glenoid joint; basioccipital deeply excavated laterally, a deep pit at anterior end of excavation. Central Asia.
- #113d' (c'). Panthera Oken, 1816, Lehrb. Naturg., Zool., 3 Th., Abt. 2, 1052-1066, tsd. (1902; 1929) vulgaris Oken so. panthera Pall. so. pardus Linn. (tsd. 1919) [not Panthera Hübner, 1816, lepidopt.].—Jaguars. Outer chamber of bulla comparatively small, not involving entire anterior portion of cavity; partition-line close to meatus and ceasing towards anterior edge of bulla; a wide valley between bulla and glenoid joint; basioecipital at most shallowly exeavated laterally. Africa; Asia.
 - Syns: Jaguarius Severtzow, 1858, Rev. Mag. Zool., Paris, 2d ser., v. 10, Sept., 386, 390, mt. onca Linn.; Leo • Oken, 1816, Lehrb. Naturg., Zool., Th. 3, Abt. 1, 1074, mt. tat. leo Linn. syn. vulgaris;

Leonina o * Grevé, 1894, Nev. Acta Acad. Leop., Halle, v. 63 (1), 60, mt. leo;

Leoninae Wagner, 1841, Schreber's Sängthiere, Suppl., v. 2, 460-469;

Pantherinae Wagner, 1841, Schreber's Säugthiere, Suppl., v. 2, 474;

Pardotigris * Kretzoi, 1929. Xth Internat. Congress Zool., Budapest, pt. 2, 1325, tod. onca Linv Tigrina * Grevé, 1894, Nova Acta Acad. Leop., Halle, v. 63 (1), 48-55;

Tigrinac * Wagner, 1841, Schreber's Säugthiere, Snppl., v. 2, 469, mt. tigris Linn.;

Tigris . Oken, 1816, Lehrb. Naturg., Zool., 3 Th., Abt. 2, 1066-1070, tat. tigris Linn.

#413 Fells, affinis Gray, 1830–1832, Illustr. Ind. Zool., London, pt. 1, pl. 3. So. #413 Fells (Fells) chaus affinls, q. v.

#413 Fells 1 azteca (Merriam, 1901, Proc. Wash. Acad. Sci., v. 3, Dec. 11, 592 [F. hippolestes]) Merriam, 1903, Proc. Biol. Soc. Wash., v. 16, May 29, 73.

So. #413 Fells (Puma) concolor azteca.

#413 *Felis [or Lynx] (#413n Lynx, Cervaria h, Eucervaria e, Lynchus e) baileyi (Merriam, 1890, N. Amer. Fauna, no. 3, Sept. 11, 79 [Lynx]) Lydekker, 1893-1894, Royal Nat. Hist., v. 1, 441. Bay lynx, Bobcat, Plateau lynx. Moceasin Spring t, Arizona; Colorado; Utah.

Taenia † †325.

macrocystis.

Toxocara †484.—Intest.

[*species Hall, 1912.—Colorado.]

#413 Fells 1 (Felis 1) bangsi costarleensls Merriam, 1901, Proc. Wash. Acad. Sci., v. 3, Dec. 11, 596. Central American Puma. Boquete, Chiriqui, Panamat. So. #413 Fells (Puma) concolor costarleensls.

#413 Fells 1 [or Prionailurus] (#413v Prionailurus t, Lynx1, Oncoides t, Pardina t) bengalensis Kerr, 1792a, Anim. Kingd., 151. Leopard cat, spotted cat, Ban-billa, Ban Biral, Borka, Chita Billa, Chita billi, Chitta biral, Kla-hla, Kya-gyúk, Kye-thit, Rimau-ákar, Theet-Kyoung, Thit-Kyoung, Thit-kyúk, Wagati. Amurland; "Bengal" t, India t; Borneo; China; Eastern Siberia; Formosa; Himalayas; Java; Malacca; Philippines; Siam; Sumatra.

Hepatozoon < †165.—Blood.

species Wenyon in Hamerton, 1929.— London Zoo.

Paragonimus †250.—Lungs.

twestermani.

Diphyllobothrium †295.

reptans.—Burma.

species Moghe, 1926.

Ancylostoma †387.—Intest.

tceulanicum.

Chlamydonema †470I.

praeputiale.—India.

Gnathostoma †473.

†spinigerum.

Microfilaria †432.

species Hamerton, 1929.—London

Zoo.

Strongyleides †355.—Intest.

†intestinalis.

Synthetocaulus < †418.

species Vevers, 1920.—London Zoo, from India.

Toxascaris †486.—Intest.

leonina.—India.

Toxocara †484.—Intest.

 $[\dagger mystax \circ . - India.]$

Troglostrongylus < †418.—Frontal sinus.

troglostrongylus.—

India t.—T. h.

Haemaphysalis †869.—Ext.

canestrinii *.—Burma.—So. † leachi *. † leachi .- Burma.

#413 Fells 1 (#413v Prionallurus, Oncoides 1, Servalinae 1) bengalensis minuta (Temm., 1824, Monog. Mamm., v. 1, 130) Trouess., 1897c, Cat. Mamm., Berolini, 358. Kueruck, Kuwuk, Zwergkatze. Malacca; Philip-So. bengalensis, fide Lydekker, 1896, 126.

Platynosomum †2761.—Liver, gall bladder.

fastosum.—Zoo, Königsberg t.—T. h.

[symmetricum s.]

Toxocara †484.—Intest.

 $[\dagger mystax = 0.]$

#413 Fells [or Catus o] caeruleus (Erxl., 1777, Syst. Anim., 522 [F. catus]). So. #413 Felis (Felis) catus caeruleus.

#413 Felis [or Chaus, Lynx] cafra Desm., 1822, Encycl. méth., Man m., (2), 540. So. #413 Fells^r (Fells) ocreata cafra.

#413 Lynx * californicus (Mearns, 1897, Proc. U. S. Nat. Mus., v. 20, 458 [Lynx rufus]) Merriam, 1899, N. Amer. Fauna, no. 16, 104. So. #413 Felis (Lynx) rufa californica, q. v.

#413 *Felis | [or Lyncus, Lynx] (#413n Lynx, Lynchus) canadensis Kerr, 1792a, Anim. Kingd., 33, 157. Canadian lynx. E. Canada ; N. America, south to Pennsylvania and California. Syns.: cauadensis ** 1901; conadensis ** 1843.

Taenia † †325.—Intest.

laticollis.--?Canada.

*rilegi.—Minnesota t.—T. h.

Spirocerca 468G.

*sanguinolenta.-Wash. Zoo.

Toxocara †484.—Intest.

[†canis.]

*crenulata.—Stomach.—Phila. Zoo.

[†*mystax * o.—Army Med. Mus.—So. eati.]

Ceratophyllus †1627.—Ext.

*dentatus *.—Moscow t, Idaho.—T.h. *labiatus.—Moscow t, Idaho.—T. h.

*petiolatus.-Moscow t, Idaho.-T.h.

Foxella < †1626.—Ext.

ignotus albertensis.—Blackfalls ⁴, Alberta.

Hoplopsyllus †1628.—Ext.

*glacialis lynx.—Moscow t, Idaho.— T. lt.

- #413 Felis ¹ [or Lynx] (#413n Lynx) canadensis canadensis (Kerr, 1792a, Anim. Kingd., 33, 157) Miller, 1912, U. S. Nat. Mus., Bul. 79, 119. Canada lynx. E. Canada ⁴.
- #413 **Felis** ¹ (#413*f* **Leptailurus**) **capensis** Forster, 1781, Phil. Trans., v. 71 (1), 4; Gmel. in Linn., 1788, Syst. Nat., v. 1, 81; Shaw in Miller, 1796, Cim. Phys., 76. Var. of *F.* (*Zibethailurus*) *serval*, fide Trouess., 1897*c*, 356. So. *F. serval*, fide Lydekker, 1896*a*, 135. Southern Africa.

#413 Felis ¹ (#413f Leptailurus) capensis hindei Wroughton, 1910, Ann. Mag. Nat. Hist., ser. 8, v. 5, 205. East African Serval cat. Machakos ¹, East Africa.

Haemaphysalis †869.—Ext.

†leachi.-Taganyika.

Ixodes †866.—Ext.

†pilosus.

†rasus.

#413 Felis | (#413f Leptailurus) capensis phillipsi Allen, 1914, Bul. Mus. Comp. Zool., v. 58, July, 337. El Garef ^t, Blue Nile, Sudan, Africa.

Dipylidium †308.—Intest.

species Kofend, 1921.—Senaar, Sudan.

#413 Fells | [or Lynx, Lynchus] (#413n Lynx, Caracal, Lynces, Lynchus, Urolynchus) caracal ²⁰. A much confused name in literature. Caracal, lynx, Persian lynx, Karakal, Wüstenluchs, Ech, Hayanatro, Incawa, Roode-kat, Rooi-kat (red cat), Siyáh-gush (black ears), Tsogde, Tuane. Africa; Asia; Asia Minor.

Felis ¹ caracal Mueller, 1776, Naturg., 30, based on Buffon's (vol. 9, pl. 24) caracal. Type locality, Barbarie, fide Allen, 1924, 280, so. *F. caracal berberorum* (Matschie, 1892), Algeria ¹.

Felis ¹ [or **Lynx**] caracal "Gueldenstaedt, 1776", Nov. Comm. Acad. Sci. imp. Petrop., v. 20, 500, same as *F. caracal* of Mueller, 1776, name not used by Gueldenstaedt; syn. *melanotis*, fide Pocock, 1917, 334 Hayanatro, Caspian Sea ⁴.

²⁰ Felis ¹ caracal Schreber, 1776, Sängthiere, pl. 110; 1777, v. 3, 413, 587. Type locality, Cape of Good Hope Region, fide Allen, 1921, Bul. Amer. Mus. Nat. Hist., v. 47, 280.

Mesocestoides \ †299.—Intest.

lineatus.—Africa.

Haemaphysalis †869.—Ext.

bispinosa intermedia.—India.

†leachi * leachi.—Egypt *.

Procaviopsylla < †1634. Ext.

creusae.—Cape Colony t.

divergens.—Cape Colony t.

Pulex †1635.—Ext.

†irritans.—Cape Colony.

#413 Felis [or Lynx] (#413n Lynx, Caracal, Lynchus) caracal nubica Fischer, 1829, Synopsis Mamm., 210. Nubia, Africa.

Mesocestoides < †299.—Small intest.

lineatus.

Amoeba †64.

*413 Felis [or Catolynx o, Catus o, Chaus o] (Felis, Cati) catus 21 Linn., 1758a, 42. Clearly the "blotched tabby" domesticated cat, fide Pocock, 1907, Proc. Zool. Soc. London, 149, and Thomas, 1911, Proc. Zool. Soc. London, 137. Possibly some of the parasites reported under Felis catus should be transferred to Felis silvestris, as there has been a tendency to use catus for the wild cat and domestica or catus domestica for the domesticated cat. More or less cosmopolitan; Upsala, Sweden t.

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*fccalis.
[species Franchini, 1922: "amibes".—
Exp. from plants.]
Anaplasma †172S.—Blood.
species Laveran & Franchini, 1914.
Babesia †173.—Blood.
fclis.—Exp.
species Davis, 1929.—Exp.
tropica.—India.
Cytospermium i < †157.
villorum intestinalium canis p.—So.
†161 Isospora bigemina.
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Eimeria †163.

felina.—Feces.—Holland t.—T. it. nova h.—Esoph., stom., intest. † perforans.—Neg. exp.

Endamoeba †37.

†*coli.—Exp.
[†dispar *.—Exp.]
[†*dysenteriae d.—Exp.; natural infection, Peking.]
[*enterica.]
* gedoelsti.—Intest.—U. S. A.*

†*qinqivalis.—Mouth.

²¹ For a discussion of the complicated question of the origin of the domesticated cats, see Pocoek, 1907, Proc. Zool. Soc. London, June 12, 143-168, pls. 8-10. Pocoek's views may be summarized as follows:

"The characters used by breeders and fanciers as a basis for their so-called breeds of English Domestic Cats have no scientific value, in the sense of affording a clue to affinity and descent.

"The pattern—or, in other words, the arrangement of the stripes—shows that English Domestic Cats are referable to two distinct types, whether they belong to the 'Manx,' 'Persian' or 'Short-haired' breeds.

"These two types of pattern are different in kind and do not intergrade. They are so distinct from each other that no one would be sitate to regard them as characterising two well-marked species if the animals presenting them existed in a wild as opposed to a domesticated state.

"In one type of pattern the stripes take the form of uarrow transverse or vertical bands which sometimes break up into spots. To feral or domesticated examples of this Cat have been given many names, of which torquata is the best known and angorensis or striata possibly the oldest.

"This Cat (torquata) was apparently domesticated in Europe at least as early as the 16th century. There seems to be no reason therefore for regarding it as of Indian origin.

"It closely resembles in pattern two existing species, namely, the so-called Egyptian Cat (F. ocreata) and the European Wild Cat (F. sylvestris), both of which occur at the present day in the Mediterranean Region, and are very nearly related to each other. There is no difficulty in the way of believing that they are the ancestral forms or 'agrictypes' of this domesticated race (torquata).

"In the other type of pattern the stripes take the form of broad longitudinal or obliquely longitudinal bands forming a ring-like or spiral arrangement on the sides of the abdomen. To domesticated examples of this Cat, Linnaeus gave the name catus, which cannot be applied to any other form of the genus Felis. Domestica is its best-known synonym.

"This Cat (catus) is certainly known to have been domesticated in Enrope in the middle of the 18th century. It was not, however, apparently known in India in the middle of the 19th century. Probably, therefore, it is of European descent.

"Its origin is unknown. Of the several hypotheses that may be held on this subject perhaps the following two are the most to be commended; that it arose as a sudden variation or sport from the *torquata*-breed, in which case European Domestic Cats are dimorphic in pattern; that it is the direct descendant of some extract Pleistocene Cat, in which case there are two distinct species of Domestic Cat in Europe."

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†*histolytica.—Also exp.
                                          [species Pettit, 1927 (after Gross):
  *histolytica murina.—Exp.
                                             "Spirochetides".—Stomach.]
  [intestinalis b o.]
                                           tvincenti.
  [species Houdemer, 1925.—Tonkin.]
                                        Trichomonas †131.
Giardia †139.—Intest.
                                          felis i.—Intest.—Brazil t; Paris.—
  cati.—Paris t.—T. h.
                                             T. h.
  †*enterica.—Italy.
                                           *felistomac.—Mouth.—Baltimore];
  *felis.—Baltimore t, Md.—T. h.
                                             Md.—T. h.
  tintestinalis d h.
                                           †*hominis 1.—Exp.
  †*lamblia.—Exp.
                                           †*intestinalis d h.—Exp.
  species Deschiens, 1925.—Paris.—
                                          parva.—Exp.
                                          species i Kessel, 1928.—Indistin-
    Neg. exp.
                                             guishable from T. hominis.—Exp.
Hepatozoon < †165.—Blood.
                                             from Homo, monkey, pig, and
  canis.
                                             white rat.
 felis o.
                                          species Reichenow, 1925.—Germany.
 felis-domestici i s.—Leucocytes.—In-
                                        Tritrichomonas i 3 †132.
                                                                    So. †131
    dia t.—T. h.
                                          Trichomonas, q. v.
Isospora †161.
                                        Trypanosoma †94.—Blood.
  †belli.—Exp.
                                          †brucei.—Exp.
  †*bigcmina.—Intest.—Europe.
                                          equiperdum.—Exp.
  bigemina cati.—Intest.—T. h.
                                          evansi.—Exp.
  *felis.—Intest.—Europe t.—T. h.
                                          frobeniusi e s [frobenius].—Exp.
  †*rivoltai •.—Feces.—T. h.
                                          †gambiense.—Exp.
  species Tubangui, 1931. — Philip-
                                          hippicum.-Murrina, Derrengadera,
                                             Verrenkung.—Exp.
  [villorum intestinalium canis p.—So.
                                          marocanum s.—Exp.
    bigemina.]
                                          †rhodesiense s.—Exp.
  viverrae.—Neg. exp.
                                          species Weck, 1914.—Africa.
Leishmania †88.
                                        Adleriella < †271.—Intest.
  †donovani.—Algiers; Spain.
                                          minutissima.—Palestine.
  †infantum.
                                        Alaria < †223j.—Intest.
  †*tropica.—Exp.
                                          americana.
Pentatrichomonas is †134.
                            So. †131
                                          [asoviensis.—? Small intest,—Rus-
  Trichomonas, q. v.
                                            sia t.—T. li.]
Pneumocystis < †1.56.
                                        Amphistoma 1 †229a.
  carinii.—Lungs.
                                          species Parona, 1894a.—Pisa, Italy.
Sarcocystis †151.—Muscles.
                                        Apophallus †271P.—Intest.
  species Darling, 1915.—Panama.
                                          donicum.—Russia.
  species Krause, 1863.
                                          mühlingi.
  species <sup>1</sup> Wasielewski, 1896.
                                          [*venustus.—Germany; Washington.
Schizotrypanum †95.—Blood.
                                            D. C.]
  †cruzi.—Exp.
                                        Centrocestus †271L.
Treponema 1 †141f.
                                          †armatus.—Formosa.
  [canis.—Feces.—Acera, W. Africa.]
                                          [†formosanum.—Intest.—Formosa.]
  teurygyratum.—Intest.
                                        Clonorchis †268.
  ticterohaemorrhagiae.—Blood.—Exp.
                                          tendemicus.—Liver,
                                                                gall
                                                                      ducts.—
  †morsus-muris.
                                            China; Japan.
  [regaudi.]
                                          †sincnsis.—Liver.—China; Japa
  [species Kasai & Kobayashi, 1919:
                                          †sinensis major o.
    "Stomach spirochaetes".—Tokyo.]
                                          [†spathulatum d.]
  [species Kermogant, 1925.—Exp.]
                                        Cornatrium \leq †282.
  [species Lim, 1920: "Spirochaetes".-
                                          fuscatum.—Japan t.—T. h.
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perpendiculum.—Japan.—Exp.

Edinburgh.—Stomach.]

Opisthorchis †267.

Cryptocotyle †271F.—Intest. coneara.— Crimea. *lingua.—Woods Hole, Massachusetts.—Exp. quinqueangularis.—Russia ^t.—T. h. tanaitici.—U. S. S. R. ←T. h. Dexiogonimus < †271.—Intest. ciureanus.—Palestine. Diorchitrema $\leq †271$.—Intest. pseudocirrata.—Palestine. Distoma $1 \le †238$. kalapai.—Larva in liver.—Exp. Echinochasmus †262.—Intest. †japonicus.—Japan.—Exp. † perfoliatus.—Europe; Japan. Echinostoma †255. liliputanum. Euparyphium †257.—Intest. [melis.] trigonocephalum o. Fasciola †246. thepatica. Heterophyes †272.—Small intest. aequalis.—Egypt; Palestine. continuus.—Japan.—Exp. dispar.—Egypt; Palestine. dispar limatus.—Egypt t.—T. h. froternus.—Intest. theterophyes.—Small intest., cecum.—China; Egypt; Japan. heterophyes sentus.—Egypt t.—T. h. †nocens.—Japan.—Exp. Macroorchis <†282. spinulosus. Metagonimus †273.—Intest. parvus *.—Somova t.—T. h. romanicus. takahashii.—Japan. †yokogawai.—China; Dutch East Indies. Metorchis †267i. albidus.—Gall bladder and ducts.— Königsberg ^t i. Pr., Germany.— T. h. oesophagolongus. — Small intest.— Hamburg, Germany.—Exp. Microphallus < †239A''.—Intest. †minus.—Japan.—Exp. Monorchotrema < †271.—Intest. †taichui.—Palestine.

†taihokui.—Formosa; Palestine.

*salmincola.—Western U. S. A.

Nanophyetus <†271.

43398-35--9

[conus d s of Gurlt, 1831.—Gall bladder and ducts.] tfelineus.—Gall bladder and ducts, liver, panereas.—Asia; Europe (Italy ^t); Philippine Ids.—T. h. [lanceolatum d h o 1836, not 1790, not 1803.—Liver.—Europe.l †noverca. *pseudofelineus.—Liver, bile ducts.— Dutch Guiana; Lincoln 4, braska.—T. h. [sibiricum s.—Liver.—Siberia.] tenuicollis. tenuicollis-felineus. wardi.—Liver, bile ducts.—Philippine Ids. t-T. h. Ornithobilharzia \leq †280. turkestanicum.—Branches of portal Paragonimus †250.—Lungs. *kellicotti.—U. S. A. [†pulmonale s.] †ringeri.—Asia. *species Feldman & Essex, 1929.— Rochester, Minnesota. †westermani.—Korea; Manila, Philippine Ids.; Zululand. Parameterchis < †265. *complexus.-Liver.-Eastern U. S. A. ^t—T. h. *noveboracensis.—Gall bladder.— Ithaca t, New York.—T. h. Parascocotyle <†271.—Intest. ascolonga.—Palestine. longa.—Palestine. minuta.—Brazil; Egypt, Tunis, N. Africa; S. Africa. Pharyngostomum <†223j.—Intest. cordatum.—China. fausti.—U. S. S. R. ←T. h. Plagiorchis 239-41A.—Intest. massino.—Armenia. Platynosomum †276I.—Bile ducts. fastosum.—Dutch Guiana. Ponticotrema \leq †271. euxini.—Crimca t.—T. h. Procerovum <†282. varium.—Japan.—Exp. Prohemistomum < †223j.—Intest. appendiculatum.---Rumania. Pseudamphistomum †270. [campanulatum *.—Liver.—Europe.]

*diffusum.—California t.—T. h. [conus *.—Gall bladder and ducts.] danubiense.-Liver.-Somovat.-[echinorhynchoides: Joyeuxia.—N. Af-T. b. rica.l truncatum.—Liver, gall bladder, and [elliptica o.] ducts.—Europe. [fabulosum: Diplopylidium.—Gizeh t, Pygidiopsis < †271. Egypt.—T. h.] genata.—Palestine. felina *.—Germany t.—T. h. summus.—Japan.—Exp. [felis *.—Europe t.—T. h.] Schistosoma †281.—Blood vessels. [fortunatum: Diplopylidium.—Gizeht, thaematobium. Egypt.—T. h.] †japonicum.—Liver, portal vein.— *gracile.—California t.—T. h. China; Japan; Philippines; S. Afhalli.—Manila t, Philippine Ids.; Spain.—T. h. Stellantchasmus $\leq †282$. *longulum.—California t.—T. h. falcatus.—Japan.—Exp. [monoophoroides.--Spain t.-T. h.] Stephanopirumus $\leq †282$. [nölleri.—Russian Turkestan t. longus.—Japan.—Exp. T. h.] Stictodora < †271.—Intest. örleyi.—Hungary t; Philippine Ids. sawakinensis.—Palestine. Bothriocephalus < †286.—Intest. pasqualei.—Egypt t; Spain.—T. h. species Braun, 1893f, 390.—Appar-[pasqualeiformis.—Granada ently Königsberg i. Pr. Spain.—T. h.] Cysticercus †326. por i mamillanum.—Granada t, †cellulosae. Spain.—T. h. Diphyllobothrium †295.—Intest. quinque coronatum.—Gradecipiens o.-Brazil; China; Calcutta nada ^t, Spain.—T. h. Zoo, India.—T. h. rossicum.—Russia. erinacei.—China.—Exp. sexcoronatum.—Cosmopolitan. felis.—Calcutta, India.—T. h. trinchesei.—Egypt; Italy t; Tuni-†houghtoni.—China. sia.—T. h. \dagger *latum.—Also exp. Echinococcus †322. maculatum 8. granulatus, for ?granulosus. †mansoni.—Coelom, musculature. tgranulosus.—Adult in intest.—Eng-Adult in intest.—China; Korea; land; S. Africa. Puerto Rico. polymorphus 8.—Larva invarious [pancerii (Polonio) of Baer & Joyeux, organs. 1927.—Adult in intest.—So. rana-Ligula †290. intestinalis Linn.—U.S.S. R. rum.—Exp.] species Sakamoto & Tsuyuki, 1923. ranarum.—China; Europe.—Also exp. species Tubangui, 1925.—Manila, Japan. Mesocestoides < †299.—Intest. Philippine Ids. [species Wharton, 1917.—Philippine [canis-lagopodis *.—Intest.] *latus.—Rochester, Minnesota. [ds.]lineatus.—Tunis. Dipylidium †308.—Intest. †caninum.—Cosmopolitan. litteratus.—Intest. caninum cati.—T. li. [pseudo-elliptica * .—Apparently caninum felis h s.—Italy; Lausanne, France '.—T. h.] *species Schwartz, 1927.—Washing-Switzerland.—T. h. carracidoi.—Granada and Madrid, ton, D. C.—Exp. Spain t.—T. h. Multiceps †324. chyzeri.—Intest., colon.—Algeria; E. †serialis.—Small intest.—Wales. Africa; Hungary; Spain; Tunis. [species Engelmayer [nv]: Coenu-*compactum.—California t.—T. h. rus *.--Liver.] Schistocephalus \leq †289. cucumerina .

gasterostei.—Greenland.

[cuneiceps 5.]

Taenia $1 \le †299$.

pectinata 1 = *.

Taenia (Hydatigera or Reditaenia) †325c.—Intest.

collo brevissimo d.—Germany t.— T. lt.

†crassicollis.—Europe; India.

felina h.

globulata *.—Europe t.—T. h.

moniliformis 8.

semiteres *.—Ventric.

scrrata .-T. h.

serrata felis *.—T. h.

*taeniaeformis.—Europe '; cosmopolitan.

Taenia (Taenia) †325b.—Adult in intest.

†hydatigena.—Larva in connective tissue.—Wales.

†marginata *.—Larva.

novella.—Intest.—France t.—T. h. †pisiformis.

†solium j.—Musculature.—Presence in cats needs confirmation.

Taenia (Taeniarhynchus) †325d.—Intest.

†saginata i.—Presence in cats needs confirmation.

Tetrathyridium < †284a.

[bailleti.—Syn. railleti m 1894.]

elongatum ^{d h} 1882a.—Thoracic cavity, abdomen, serous membranes.—Germany.

[species Skrjabin, 1924.—U. S. S. R.]

Aelurostrongylus < †418.

abstrusus.—Adult in pulmonary vessel, eggs in blood stream, in lungs, larva in lungs and feces; lungs, bronchi, trachea.—T. h.

[nanus.—Munich.—T. h.]

[pusillus h.]

Agamonema †375.

affine.—So. spiralis.

Agamospirura †457.

species Henry & Sisoff, fide Skrjabin, 1924.—U. S. S. R.

Ancylostoma †387.—Intest.

balsami s.—Italy.—T. h.

[balsamis m felis o, balsamoi m, for balsami.]

†*brasiliense.—Brazil¹; China; Formosa; India; Japan; Philippines; U. S. A. †*caninum.—Dutch Guiana; Freetown, W. Africa; U. S. A.

†ccylanicum *.—Ceylon; Freetown, W. Africa; Durban, S. Africa.

†*duodcnale.—Error for caninum?
But it has been transmitted experimentally to kittens.

[feliso.]

trigonocephalum d.—Manila.

tubacforme i s.—Duod. in tubere.— Europe; S. America.—T. h.

Arthrostoma $\leq \dagger 384$.

fclineum.—Exp.

Ascaris 1 †479.

cati ^h Gmelin, 1790a.—Intest.—Europe.

Capillaria †372b.

plica.

species Lewis, 1927.—Urinary bladder.—Wales.

Chlamydonema 4701.—Stomach.

felineum s.—B a t a v i a.—So. praeputiale.

praeputialc.—Brazil; China; Ceylon; Guianas; India; Zanzibar.—T. h. [preputialis c.—Brazil.]

Cylicospirura 468f.

[felineus *.—Encysted in stomach wall.—India *.—T. h.]

Dipetalonema †453.

dracunculoides.—Tunis.

Dirofilaria †447, 449A.

†*immitis.—Heart.

Dracunculus †439.

 $\dagger medinensis.$

Eucoleus $\leq †369$.

aerophilus.—Bronchi.—Munich.
[aerophyllum *.]

Filaria †435.

species Stiles & Hassall, 1894e.

Fusaria 1 = Ascaris 1 †479.

crenata.—Stomach, intest.

Gnathostoma †473.

pelccani.—Liver and peritoneal wall. robustum *.—Stomach.—So. ? spini-gcrum.

†spinigcrum.—Stomach, gastrie ulcer, digestive apparatus, kidney, stomach tumor.—Australia; China; India; Philippines.

Hepaticola †372.

henatica.—Exp. neg.

Heterakis †488N. Toxocara †484.—Stomaeh, intest. papillosa *.—Intest., stomach.—De-†*canis.—Europe, U. S. A. rived from eating fowl.—[Cf. vesicanis felis *.—Host i. cularis and inflexa.] †cati.—Europe; Philippines.—T. h. Microfilaria †432.—Blood. felis o. species Chatton, 1918.—Tonkin; S. $\dagger marginata$ °. Tunisia. [myolare m.—Brazil.] Nematoideum †352a. †*mystax o.—Intest., stomaeh, messpecies Dav., 1877a.—Lungs. entery.—Europe; India; Africa; [species Sonsino, 1896m.—Egypt.— U. S. A.—T. h. Larva in lungs.] [nuptax m.] *species Wilson, 1922.—N. Carolina. [species Hall, 1912.] Ollulanus < †411d. species Hall, 1912. bicuspis ^m. [teres [felis].—Cf. mystax.] *tricuspis.—Tunie. ventrie., lungs, Trichinella †366. intest., stom., gastrie mueosa.-[†pubis s.] Germany t, Europe, U. S. A.— †*spiralis.—Tongue; muse.; small T. h. intest. [trikuspis of for tricuspis.] Trichosoma †372a. Physaloptera 470H. felis-cati.—Urinary bladder. gemina. — Stomach, intest. lineare s.—Intest.—Cf. ? felis-cati. Egypt t.—T. h. species Sandground, 1921.—Bladder. pacitae.—Eneysted, stomach wall. species Schlotthauber, 1860. Trichuris †370.—Intest. species Skrjabin, 1924.—U. S. S. R. campanula.—Brazil.—T. h. Protospirura 470B. $\dagger dispar.$ —Traehea. *gracilis. — S t o m . — Washington t, serrata.—T. h. D. C.—T. h. Uncinaria 390B.—Intest. Rictularia 459R. †*stenocephala. affinis. Wellcomea 494A.—Intest. cahirensis.—Sm. intest.—Armenia; *compar.—Caleutta, India; Philadel-Cairo; Turkestan.—T. h. phia t, U. S. A.—T. h. Soboliphyme 423B. baturini.—Asia. Centrorhynchus †501S. aluconis.—Intest.—Armenia. Spirocerca 468G. erraticus.—Intest.—India.—T. h. sanguinolenta.—Exp.—Aortic wall. species Kostylew, 1926.—Intest.— Pekin. Spirura 468e. Armenia. gastrophilas.—Esophagus, stomach.— Corynosoma †501s. Europe; Madagasear. species Skrjabin, 1924.—U. S. S. R. rytipleurites. strumosum. talpae. [ventricosum 8.] Strongyloides †355.—Intest. Echinopardalis †501m.—Intest. fülleborni.—Exp. pardalis. *species Price & Dikmans, 1929.— Echinorhynchus 1 †502. Epithelial tumors, large intest. species Braun, 1893f.—Germany. U. S. A. Moniliformis †505. †*stercoralis - Exp. - U. S. A.; †moniliformis. Japan. Oncicola †501o. stercoralis felis.—Calcutta.—T. h. *canis.—Texas; District of Columbia. Thelazia †464. †callipaeda.—Eye, exp.—China. Amblyomma †881.—Ext. Toxascaris †486.—Intest. agamum.—Brazil.—Negative exp. [†felis o.] †*unipunctatum B.

†variegatum.

leonina.—England.

Ornithodoros †863.—Ext. Argas †861.—Ext. trespertitionis .- Cape Province, †moubata. S. Africa. Transvaal, S. Africa. †savignui. Otobius †862.-Ext. Armillifer †796. †megnini.—S. Africa. †armillatus. Otodectes †944c.—Ext., ear. Cheyletiella †991a.—Ext. parasitivorax. [auricularum.] Demodex †855.—Hair follicles. [auricularum canis 8.] folliculorum cati,—Europe t.—T. h. [auricularum cati o.—T. h.] Dermacentor †873.--Ext. cunotis. [ecaudatus o.] bifurcatus. [fclis 8.] variegatus. Rhipicephalus †875.—Ext. Dermanyssus †895.—Ext. †appendiculatus. †gallinae. Haemaphysalis †869.—Ext. evertsi. bispinosa. bispinosa intermedia.—India. [†pulchellus.] concinna. †sanguincus. †leachi • leachi.—Nyassaland. Sarcoptes †942.—Ext. †hominis.—Exp. negative. lcporis-palustris. parmata. [species Berge, 1923.—Dresden.] punctata. Trombicula †970.—Ext. †akamushi.—Japan. Hyalomma †880.—Ext. †aegyptium aegyptium. †autumnalis. aegyptium impressum.—S. Africa. †irritans. Ixodes †866.—Ext. shannoni.—Verrugas Cañon t, Lima, *angustus.—Washington, U. S. A. Peru.—T. h. †hexagonus. species Kitashima & Miyajima, †*hexagonus cookei. 1918.—Asia. *hexagonus longispinosus. †tlalsahuate. †holocyclus.—Hostⁱ. †vandersandei. †pilosus.—Transvaal. $\dagger wich manni.$ †pilosus howardi. Trombidium †977.—Ext. †reduvius *.—So. ricinus, pars so. †holosericeum. †striaticeps.—France t. hexagonus. $\dagger ricinus.$ Tydeus †949.—Ext. Kiricephalus †795a.—Lungs. \dagger molestus. pattoni.—China. Tetranychus †987. Leptus †955. molestissimus. Uropoda $\leq \dagger 890a$.—Ext. †*americanus. clongata.—Utrecht. Linguatula †800. †rhinaria. Aëdes †1459.—Ext. iserrata.—Larva and adult. †fasciatus *. Metathrombium †964.—Ext. Bogeria $\leq †1573$. emasculator.—Larvae subcut.—N. †poriceps. Microtrombidium †974.—Ext. America. †meridionale *. Ceratophyllus †1627.—Ext. †pusillum.—Europe. fringillae.Notoedres †936.—Ext. Cochliomyia †1581A. †cati cati.—T. h. †macellaria. [minor o.—Nose, lips, ears, eyes.— Cordylobia †1599. Europe.—T. h.] †anthropophaga.—Larvae subcut.—

Senegal.

[†notoedres.]

Ctenocephalides †1639.- Ext.

†*canis.—Europe; America.

[†enncodus *.—Europe.]

†*felis felis.—Europe; Asia; America.—T. h.

[†novemdentatus °.—Europe.] [†serraticeps °.—Europe.]

Ctenophthalmus < †1626.—Ext. agyrtes agyrtes.

Cuterebra < †1573.

*species Hall, 1924.—Larvae subcut.—Boontown, N. J.

*species Hall, 1925.—Larvae subcut.—U. S. A.

Echidnophaga †1633.—Ext.

bradyta.—S. Africa.

†gallinacea.—S. Africa.

Felicola \leq †1099.—Ext.

subrostratus.—Europe t.—T. li.

Mesopsylla < †1626.—Ext.

hebes.—S. E. Russia.

Palaeopsylla < †1623.—Ext. minor.—Frankfurt a. M.

 ${\bf Paradoxopsyllus} {<} \dagger 1626. {--} Ext.$

†curvispinus.

Pulex †1635.—Ext.

† irritans.—Germany.

Spilopsyllus < †1634.—Ext. †cuniculi.

Triatoma †1153.—Ext.

† megista.

Tunga †1631.—♂♀ext., gravid♀sub-

†penctrans.—Cameroon.

Xenopsylla †1636.—Ext.

†cheopis.

#413 Felis ^r [or Catus ^o] (Felis) catus ^d of many authors. Wild cat, chat sauvage, Wildkatze. Europe. So. #413 Felis (Felis) silvestris.

#413 Felis ^r [or Catus ^o] (Felis) catus caeruleus Erxl., 1777, Syst. Anim., 522. Blue cat, Blaue Katze, Karthräuser Hauskatze. Syn. coeruleus ^o.

Dipylidium †308.—Intest.

†caninum.

[cuneiceps *.—Germany t.—T. h.]

#413 Felis (Catus °) catus domestica Erxl., 1777, Syst. Regn. Anim., 520. So. #413 Felis (Felis) catus.

#413 Felis * catus ferus * Erxl., 1777, Syst. Regn. Anim., 518. Germany *t. So. #413 Felis * (Felis) silvestris.

#413 "Felis reatus var. persica, Persian eat."

Taenia (Hydatigera or Reditaenia) †325c.

semiteres.—Stomach.—Brit. Mus.—T. h.

#413 Felis [or Chaus], Lynchus], Lynx] (Felis], Catolynx], Chaus, Lynces], Lynx] chaus Gueldenstaedt, 1776, Nov. Comm. Acad. Sci. Petrop., v. 20, 500. Chaus, Jungle eat, Reed cat, common wild cat of India, bulaste, lynx des marais, Kirmyschak, Sumpfluchs, Bamberal, Banberal, Bául, Bella-bek, Berka, Bháoga, Cherru-puli, Gúrba-i-Kulri, Jangli-billi, Jurka-pilli, Kada-bek, Katu-punai, Katu-pundi, Khatás, Khyoung tsek-koon, Kyoung-tset-kun, Mant-bek, Reit-Kat, Van-billi. Africa; Asia; Asia Minor; South Russia, northeast of the Caucasus; neighborhood of the Caspian ^t.

Chlamydonema 470I.

malayense.—Intest.—Malay States. [praeputiale.—India.]

Haemaphysalis †869.—Ext.

dentipalpis.—Federated Malay States ^t.

†lcachi e leachi.

Toxocara †484.—Intest.

†mystax a o.—India.

Xenopsylla †1636.—Ext.

†astia.—India.

#413 Feils (Felis, Catolynx) chaus affinis (Gray, 1830-1832, Illustr. Ind. Zool., London, pt. 1, pl. 3 [Felis]) Trouess., 1904c, 275. Indian jungle-eat. Burma; Ceylon; India, from the Himalayas to Cape Comorin.

Haemaphysalis †869.—Ext.

bispinosa intermedia.—India. †lcachi e leachi.

#413 Felis | [or Leopardus | pardalis; Oneoides | pardalis] (#413t Zibethaiiurus) chibigouazou Gray in Griffith's Cuv., 1827, Anim. Kingd., 167. Brazilian ocelot, Jaguatiriea. South Amer. ; Brazil and northeastern S. Amer. Syns.: chibiguazu c Sehinz, 1844, Syst. Verz. Säug., v. 1, 440; chibiguouazon m 1917. Subspecies of F. pardalis, fide Thering, 1911, 153; Allen, 1919, 348.

Echinopardalis †501m.

pardalis.—Intest.

Oneicola †501o.—Small intest. oncicola.—Matto Grosso.

#413 *Felis | [or Leo |, Leopardus |, Lynx |, Panthera |, Pardus |, Puma |, Uneia 1] (#413p Puma t, Leoninae I, Uneia I, Unicolores) concolor Linn., 1771, Mantissa Plantarum, v. 2, 522. American lion, American panther, Cougar, Couguar, painter, "panther", Puma, eouguar vrai, Cuguar, Silberlöwe, Onça parda, Sussuarana. São Paulo, Brazil t; Canada to Patagonia. Several subspecies, fide Nelson & Goldman, 1929, 346: azteca, bangsi, browni, californica, concolor, coryi, costaricensis, couguar, hippolestes, improcera, incarum, mayensis, oregonensis, osgoodi, patagonica, pearsoni, puma, söderströmii, wavula. Syn. eoneolar m 1842.

Diphyllobothrium †295.—Intest. decipions o.—Brazil.

†latum.

Echinococcus †322.

[crassicollis juvencula o.—S. Ameriea ^t.—T. h.]

[felis-concoloris s.—Brazil t.—T. h.] † granulosus.

oligarthrus.-Brazil t.-T. li. omissa.—S. America^t.

Mesoeestoides \leq †299.—Intest.

lineatus.—Dutch Guiana.

Taenia (Hydatigera or Reditaenia) $\dagger 325c$.—Intest.

ammonitiformis s.—London Zoo 1.—

†taeniaeformis.—Buenos Aires, Argentina.

Ancylostoma †387.—Intest.

trigonoeephalum d. tubaeformc.

Cylicospirura 468f.

subaequalis.—Stomach, small intest., tumors of esoph.—Brazil.

Gnathostoma †473.

robustum ⁸ i.—Free or in tuberele of stomach.—Brazil.—T. h.

†spinigcrum.—Stomach, gastrie wall.—Brazil.

Physaloptera 470H.—Stomach.

digitata.—Brazil.—T. h. terdentata.

Solenonema $\leq †440$.

[felis-concoloris o.—Subeut. abdom., intermuseular.—Brazil ^t.—T. h.l striatum.—Subeut.—Brazil t.

Syngamus †407.—Lungs, trachea. dispar.—Brazil; ? Turkestan i.—T. h.

Toxasearis †486.—Intest. *lconina.—Phila. Zoo.

Toxocara †484.—Intest.

[anterospiralis s.—Stomach.—Brazil.] [*fclis-discoloris.—U. S. A.]

[leptoptcra s.]

[leptoptera crenulata.]

[†mystax °.—Duteh Guiana.]

Echinopardalis †501m.—Intest.

[campanulatus o.—Brazil.] [pardalis.]

Ixodes †866.—Ext.

†bicornis.—Mexico t.

†*ricinus i.—U. S. A.

Ctenocephalides †1639.—Ext.

[concoloris *.—Argentina t.—T. h.] †felis.—Argentina.

Dermatobia †1575.

†cyaniventris.—Larvae subeut.—S. America.

#413 Felis (Puma, Felis), Uncia) concolor azteca (Merriam, 1901, Proc. Wash. Acad. Sci., v. 3, Dec. 11, 592 [Felis hippolestes]) Nelson & Goldman, 1929, J. Mamm., v. 10 (4), Nov., 347. Mexican Cougar. Colonia Garcia, Mexico.

Amblyomma †881.-Ext.

†cajcnnense.

Dermacentor †873.—Ext.

†*variabilis.

#413 Felis ¹ (#413p Puma) concolor costaricensis (Merriam, 1901, Proc. Wash. Acad. Sci., v. 3, Dec. 11, 596 [Fclis ¹ bangsi]) Nelson & Goldman, 1929, J. Mamm., v. 10 (4), Nov., 347. Central American Puma. Boquete, Chiriqui, Panama [†].

#413 *Felis¹ [or Puma ^e] (#413p Puma, Felis¹, Uncia¹) concolor couguar (Kerr, 1792a, Anim. Kingd., 151) Nelson & Goldman, 1929, J. Mamm., v. 10

(4), Nov., 347. Eastern Puma. Pennsylvania ^t, U. S. A.

Diphyllobothrium †295.—Intest.

decipiens °. sulcatum *.

Echinococcus †322.

[erassicollis juvencula °.—S. America.]

techinococcus e.

[felis-concoloris.—Brazil.]

†granulosus.

oligarthrus.—Small intest.—Brazil. omissa.—Intest.—S. America.

Taenia (Hydatigera or Reditaenia) †325c.—Intest.

ammonitiformis s.—London Zoo.

†crassicollis 8.

†tacniaeformis.

Syngamus †407.—Lungs.

[dispar.]

Toxocara †484.—Intest.

mystax °.

#413 Felis ¹ (#413*p* Puma, Fclis ¹) concolor oregonensis Rafinesque, 1832, Atlantic J., Phila., v. 1 (2), 62 [Felix ^m]. Northwestern Puma. Oregon Mountains ^t; Northwest coast, U. S. A.

#413 Felis ¹ (#413*p* Puma, Uncia ¹) concolor puma (Molina, 1817, Sagg. Stor. Nat. Chili, 245) Nelson & Goldman, 1929, J. Mamm., v. 10 (4), Nov., 346. Vicinity of Santiago ^t, Chile; La Plata; Patagonia.

Ctenocephalides †1639.—Ext.

[concoloris 8.]

#413 Felis ¹ costaricensis ^h Mearns, 1902, Proc. U. S. Nat. Mus., v. 25, Sept. 17, 245 [not Merriam, 1901], renamed *F. mearnsi*. Talamanea, Costa Riea ^t. So. #413 Felis (Leopardus) mearnsi.

#413 *Felis 1 [or Puma] couguar Kerr, 1792a, Anim. Kingd., 151. So. #413 Felis

(Puma) concolor couguar.

#413 Felis ¹ [or *Puma*] (#413*p* Puma, Uncia ¹) *discolor* ⁸ Schreb., 1777, Säugetiere, v. 3, 393, pl. 104*B*. So. #413 Felis (Puma) concolor, fide Trouess., 1897*c*, 352; Elliot, 1901, 293; Ihering, 1911, 160.

#413 Fclis r (Catus °) domestica of authors. Nomenclatorially, F. domestica is a synonym ° of F. eatus; from a viewpoint of records in parasitology, however, it means little more than "domesticated cat" and may, therefore, refer

to practically any line of descent. So. #413 Fells (Fells) catus.

#413 Fclis [or Lynchus], Lyncus] (#413m Fclls , Lynces , Lynchus) crythrotis Hodgson, 1835, J. Asiatic Soc. Bengal, v. 4, 522 [Felis (Lynchus)] [nn]; Hodgson, 1836, J. Asiatic Soc. Bengal, v. 5, 233 [Lynchus]. Rothöhrige Luchs. India from Himalayas and Sind to Cape Comorin, Ceylon, and to Assam, Burma, Indo-China. So. F. chaus, fide Blanford, 1888, 86, and Lydckker, 1896a, 182; so. F. chaus affinis, fide Trouess., 1904, 275. See #413 Fclls (Fclls) chaus.

#413 Felis [or Catus], Chat], Herpailurus, Panthera], Pardus], Puma] (#413a' Herpailurus, Cati], Catopuma], Leopardus], Unicolores]) eyra Illiger, 1815, Abh. ph.-Kl. K. pr. Ak. Wiss. (1804-1811), 109, 122. The Eira, Eyra, Apache, Onza, Tiger eat. Paraguay ; Brazil; Guiana; supposed to range north to Central Amer. Syn. cira Desm., 1816, N. Diet. Hist. nat., ed. 2, v. 6, 114. So. #413 Felis [Herpailurus] jaguarondl, a colour-phase only, fide Pocock, 1917, 347. Lydekker says it is just by courtesy that this species is kept separate from jaguarondi.

Taenia (Hydatigera or Reditaenia) †325c.—Intest.

†crassicollis 8.

†taeniacformis.

Ancylostoma †387.—Intest.

†caninum.

*pluridentatum.—Wash. Zoo.

ANCYLOSTOMIDAE †384.—Intest.

species Weidman, 1923.—Phila. Zoo.

#413 Fells [or Cervaria b] (#413n Lynx) fasclata (Rafinesque, 1817, Amer. Monthly Mag., v. 2 (1), Nov., 46 [Lynx]) Desmarcst, 1820, Encycl. méth., Mamm., (1), 225. West coast North America (California; Oregon; Washington).

Taenia † †325.

macrocystis.

#413 Fells ¹ [or Lynx] (#413n Lynx, Cervaria ^h, Lynchus ^o) fasciata fasciata (Rafinesque, 1817, Amer. Monthly Mag., v. 2 (1), Nov., 46 [Lynx]; Desmarest, 1820, Encycl. méth., Mamm., (1), 225 [Felis ¹]) Miller, 1912, U. S. Nat. Mus., Bul. 79, 119. Barred Lynx, Red cat. "Northwest coast" ^t, probably near mouth of Columbia River, U. S. A.

Nanophyetus <†271.—Intest.

[*salmincola.—U. S. A.]

#413 [Fells ¹ or] Lynx fasclata pallescens Merriam, 1899. N. Amer. Fauna, No. 16, Oct. 28, 104. Bob cat. South base of Mt. Allins ^t, near Trout Lake, Washington.

Nanophyetus <†271.—Intest.

*salmincola.—Exp.

#413 Felis [or Herpailurus, Oncifelis, Panthera , Pardalina] (#413a' Herpallurus, Oncifelis, Oncoides) geoffroyl d'Orbigny & Gerv., 1844, L'Institut, May, 189; 1844, Extr. P. V. Soc. Philom., Paris, 40; 1844, Mag. de Zool., v. 6 (2), pl. 57. Geoffroy's cat, Gato do matto, Gato montes. South America (Argentina). See #413 Felis (Herpailurus) guigna.

Echinopardalis †501m.

[pardalis.—Intest.]

- #413 Felis (#413a' Herpailurus) guigna Molina, 1782, Saggio storia nat. Chili, v. 1, 295. Geoffroy's cat, spotted tiger-cat, Monte-cat (Gato del monte). South America (Chile to Tucuman). There appear to be two races of this cat which some regard as distinct species: (1) the typical F. guigna extending from Chile to Tucuman; (2) the more southern and eastern F. geoffroyi of the Argentine, fide Lydekker, 1896a, 149.
- #413 Felis ¹ [or Cynofelis ¹] guttata Hermann, 1804, Obs. Zool., 38. Old World. So. #415 **Cynallurus** guttatus.
- #413 Felis ¹ (#413a' Herpailurus, Oncoides ¹) guttula Hensel, 1872, Beitr. Kenntniss Säugeth. Süd-Bras., Berlin, 73 [not Felis ¹ guttata Hermann]. Forest of Rio Grande do Sul ¹, S. Brazil, S. America. Syn. F. guttata ^m Lydekker, 1896a, 145.

#413 Fells ¹ (#413d' Panthera, Leopardus) hernandesii (Gray, 1857, Proe. Zool. Soe. London, 278, pl. 58 [Leopardus ¹]) Mearns, 1901, Proe. Biol. Soe. Wash., v. 14, Aug. 9, 142. Hernandez's Jaguar. Mazatlan ^t, Sinaloa, Mexico. So. F. onca, fide Lydekker, 1896a, 95; Elliot, 1901, 294; subspecies of F. onca, fide Elliot, 1904, 446.

Diphyllobothrium †295.—Intest. †latum.

#413 Fells ¹ hippolestes azteca Merriam, 1901, Proc. Wash. Acad. Sci., v. 3, Dec. 11, 592. So. #413 Fells ¹ (Puma) concolor azteca, q. v.

#413 Fells (#413a' Herpailurus, Catopuma , Leopardus) jaguarondi Cuv., 1817, Règne Anim., v. 1, 163. Eyra, Jaguarondi, Leon miquero, Leon monero, Yaguarundi. Paraguay , Brazil, Guiana, to N. E. Mexico. Syns.: jaguarandi , jaguarundi , juguarundi , yaguarondi , yaguarundi ,

Diphyllobothrium †295.—Intest.

decipiens o.

longicolle ⁹.—Provincia de Corrientes ^t, Argentina.—T. h.

Echinococcus †322.—Intest. oligarthrus.—Brazil. omissa.

Taenia + †325. macrocystis.

Ancylostoma †387.

†caninum.—Duodenum.

ANCYLOSTOMIDAE †384.—Intest. species Weidman, 1923.—Hookworms. Phila. Zoo.

Cylicospirura 468f. [felis-yaguarondio.] subaequalis.

Filaria †435.

felis-mellivorae (pulmonalis o p).

Molineus †411Q.—Small intest. felineus.—S. America.—T. h.

Toxocara †484.—Intest. †canis.

Uncinaria 390B.

catholica.—S. America.

species Weidman, 1916.—S. Amer-

Oncicola †501o. oncicola.—Stomaeh, intest.

Ctenocephalides †1639.—Ext. †canis.—Caraeas.

†felis felis.

[†serraticeps o.]

#413 Felis ¹ jubata Sehreb., 1777, Säugeth., v. 3, 392, pl. 105 (1776). Africa; S. W. Asia. So. #415 Cynailurus jubatus.

#413 Fells¹ [or Leo t, Panthera, Tigris] (#413d' Panthera, Felis¹, Leonina s, Leoninae, Uneia¹) leo Linn., 1758a, 41. Lion, Löwe, Ambassa, Aseed, Babar-sher, Ibubesi, Ibulubesi, Imbubesi, Imbubi, Ingonyama, Karamo, Leeuw, Lendja, Lendjandnek, Libba, Libbaka, Lugwarii, Nkalamo, Nkango, Rastar, Sáwach, Sher, Shingal, Simba, Singh, Süh or Suh (♂), Siming (♀), Tau, Tauw, Untia-bágh (Camel-tiger), Zaki. Africa ¹; Asia.

Babesia †173.—Blood.

species Leger & Bédier, 1922.—Paris, from Mauritania, Fr. Sudan.

Eimeria †163.

felina.—Leningrad Zoo.

Giardia †139.

species Deschiens, 1925.—Feces.— Paris from Haute Volta, Gold Coast, W. Africa.

Isospora †161.

speeies Möller, 1923.—Feees.—Berlin Zoo.—T. h.

Trypanosoma †94.—Blood. species Week, 1914.—Africa.

Diphyllobothrium †295.—Intest. †latum.

Taenia ¹ < †299.—Intest. species Parona, 1896k.

Taenia + †325.—Intest.

regis.—Sudan t.—T. h.

Taenia (Hydatigera) †325c.—Intest. †crassicollis *.

 ${\it †taeniae} form is.$

Taenia (Taenia) †325b.—Intest.

 $\dagger hy datigena.$

†marginata *.

†pisiformis.—Calcutta Zoo.

Ancylostoma †387.—Intest.

tbrasiliense.

†*ccylanicum.—Phila. Zoo.

†*duodenale.—Wash. Zoo.

tubaeforme is.—So. † caninum or unidentifiable.

Cylicospirura 468f.

subaequalis.—Africa.

Dirofilaria 449A.

sudanensis.—Sudan 1.—T. h.

Filaria 1 †435.

leonis.—Subcut.; blood.—Sudan.

Galoneus < †384.

perniciosus.—Berlin Zoo.

Lagochilascaris †487.

major.

minor.

Spiroptera 1 †458.

leonis.—Esophagus.

Toxascaris †486.—Stomach.

*leonina.—Breslau ^t; India; Phila. Zoo.—T. h.

Toxocara †484.—Intest.

[leptoptera *.—Esoph., stomach, intest.; feces.]

[leptoptera crenulata.]

 $[\dagger mystax \circ .$ —Pretoria Zoo.]

[mystax leonis h.—Italy.—T. h.]

Uncinaria [‡] 390B.—Intest. catholica.

Amblyomma †881.—Ext.

cburneum.—Africa ¹.
hebraeum.—S. Africa.

Armillifer †796.—Encysted.

†armillatus.—Adult.

Haemaphysalis †869.—Ext.

bispinosa.

†leachi · leachi.—Massimani, Africa.

Ixodes †866.—Ext.

†bicornis.—[Host? "Lion."]

Linguatula †800.—Encysted.

nuttalli.—T. h.

†rhinaria.

Porocephalus †798.—Encysted.

†crotali.—Larva in body cavity.

Rhipicephalus †875.—Ext.

armatus.—Balarli [†], Africa.

 $\dagger pulchellus.$

 $\dagger sanguineus.$

 $\dagger simus.$

Sarcoptes †942.—Skin.

tscabiei leonis.—France.

Ctenocephalides †1639.—Ext.

†felis.—Berlin Zoo.

Tunga †1631.—Ext., gravid ♀ subcut.

 $\dagger penetrans.$

#413 Felis 1 (#413d' Panthera) leo sabakiensis Lönnberg, 1908 (1910), Wissensch. Ergebn. Schwed. Zool. Exped. Kilimanjaro, 1905–1906, Mammals, 22–23, pl. 3, fig. 4; Lönnberg in Lydekker, 1908, Game Anim. Africa, p. xix of Addenda. Kilimanjaro lion. Kibonoto, Kilimanjaro, Africa ^t.

Lagochilascaris †487.

major.—Kilimanjaro.—T. h.

Haemaphysalis †869.—Ext.

†leachie.—Africa.

#413 Felis leopardalis Kerr, 1792a, Anim. Kingd., 148. Not determinable, fide Allen, 1895, Bull. Amer. Mus. Nat. Hist., v. 7, 188.

Haemostrongylus <†418.

subcrenatus.

Haemaphysalis †869.—Ext.

†leachi.

#413 Felis | [or Leopardus |, Panthera] (Leopardus |) leopardus Schreb., 1777, Säugeth., v. 3, 387, pl. 101 (1776). So. #413 Felis | (Panthera) pardus leopardus.

#413 **Felis** ^r [or *Chaus* ° ^t] (#413*m* **Felis** ^r) **libyca** ° Meyer, 1793, Zool. Entdeck., 101 [F. lybica]; Olivier, 1801, Voy. Egypt, v. 2, 41 [F. libyca °]. So. F. caligata, fide Trouess., 1897c, 363.

Of Geoffr., 1844, 56, so. eaffra, fide Lydekker, 1896a, 155.

Of Locke, 1867, 42, so. chaus, fide Lydekker, 1896a, 183.

Dipylidium †308.—Intest.

†caninum.

Taenia (Hydatigera or Reditaenia) †325c.—Intest. †taeniaeformis.

Felicola $< \dagger 1099$.—Ext.

subrostratus.—Buenos Aires.

#413 Felis (#413m Felis) libyca domestica h (Fischer, 1829, Syn. Mamm., 207)
Trouess., 1904, Cat. Mamm., Berolini, 273.

Notoedres †936.—Skin.

†cati.—Buenos Aires.

#413 Felis | longicaudata | Blainville, 1843, Ostéographie, Felis, 47. So. #413 Felis | (Pardofelis) marmorata.

#413 Felis lupus. Probably lapsus for #479 Canis lupus.

Diphyllobothrium †295.

decipiens o.

#413 Felis¹ [or Lynchus, Lyncus, Lynx] (#413n Lynx, Lynchus°, Lynces) lynx Linn., 1758a, 43. Lynx, European lynx, European Red Lynx, lynx du nord, loup-cervier, gemeiner Luchs, Gaupen, Patsalan, Sweden t; wooded portions of Europe from extreme north to Alps and Pyrenees, and from Atlantic coast castward. Now practically exterminated except in wilder portions of Scandinavian Peninsula; Asia. Syn. F. lunx m 1920.

Mesocestoides < †299.—Intest. species Hall, 1910.

Taenia [†] †325.—Intest.

laticollis.—Mus. Vienna.—T. h.
laticollis o "Rud." of Linstow,
1903u.—Renamed monostephanos.
monostephanos.—Gouv. St. Petersburg.—T. h.

Ancylostoma †387.—Intest.

†caninum.

Toxocara †484.—Intest.

†mystax º.

Uncinaria ^r 390B.

species Vevers, 1920.—London Zoo, from Tibet.

Macracanthorhynchus †508.

thirudinaceus.

Prosthenorchis †501p.

pachyacanthus.—Intest.—Africa. [spirula.—Brazil; Africa; Madagas-car.]

#413 Felis ¹ [or Leopardus ¹, Ncofelis, Panthera¹, Uncia ¹] (#413b Neofelis, Pantherinae ¹, Tigrina ¹, Uncia ¹, Zibethailurus ¹) macrocelis Temminck, 1825, Zool. J., v. 1 (4), Jan., 543, pl. 21. Clouded leopard, Nebelparder. Syn. macroscelis ^e Trouess., 1897c, Cat. Mamm., Berolini, v. 1, 356. So. F. nebulosa, fide Blanford, 1888, 72; Lydekker, 1896a, 114.

Haemaphysalis †869.—Ext.

†leachi.

Ctenocephalides †1639.—Ext.

tcanis.

[†serraticeps o.]

#413 Felis¹ [or Leopardus] (#413z Leopardus, Oncoides, Pantherinae¹, Pardina¹) macroura Max Wied, 1822, Abb. Naturges. Brasil. (1). Langschwänzige Tiegerkatze, Langschwanzkatze. Patagonia to Magellan Strait. Syn. F. macrura º Lydekker, 1896a, 144; so. #413 Felis¹ (Leopardus) wiedii, q. v., fide Trouess., 1904c, 279; Pocock, 1917, 344.

Diphyllobothrium †295.—Intest. decipiens °.

gracile.—Brazil 1.—T. h.

 $\dagger latum.$

Taenia r †325.

macrocystis.

Taenia (Hydatigera or Reditaenia) †325c.—Intest.

†crassicollis s.

†tacniaeformis.

Solenonema < †440 or Dirofilaria 449A. striatum.—Subeut., intermuscular.— Brazil.

Toxocara †484.—Intest.

crenulata.

leptoptera *.

Ctenocephalides †1639.—Ext.

†felis.

#413 Fells ¹ maculata ^h Vig. & Horsf., 1829, Zool. J., v. 4 (15), Jan., 381 [not Kerr, 1792]. Mexico. So. #413 Fells ¹ (Lynx) rufa maculata^h.

#413 Felis manicata, probably lapsus for #413 Felis r (Fells) maniculata, q. v.

Echidnophaga †1633.—Ext. tarda.—Abyssinia.

#413 Fells ^r [or Catolynx ^o] (Fells ^r, Cati, Catus ^o) maniculata Cretzschmaer in Rüpp., 1826, Atlas, Reise (Senekenb. Nat. Ges.), Säug., (1), 1. Chat ganté, Falbkatze. Nubia, Kordofan, Africa; Syria; Arabia; India. So. cafra, fide Lydekker, 1896a, 155. Var. of libyca, fide Trouess., 1904, 273.

Dipylidium †308.—Intest.

†caninum.

[elliptica o.]

Taenia (Hydatigera or Reditaenia) †325c.—Intest.

†crassicollis s.

†taeniaeformis.

Cylicospirura 468f.

[subacqualis.—Bône.]

Habronema †470.

chevreuxi.—Bône.

Protospirura 470B.

numidica.—Algeria.

Streptopharagus 468C.

numidicus.

Toxocara †484.—Intest.

†mystax °.—Stomach.

#413 Felis r (#413m Felis) maniculata domestica h Fitzinger, 1869, Sitzungsber. Akad. Wiss., Wien, v. 59 (1), 685.

Metorchis †267i.

albidus.

Taenia (Hydatigera or Reditaenia) †325c.

†crassicollis 8.

#413 Fells ¹ [or Catolynx ^h, Leopardus ¹, Panthera ¹, Pardus ¹, Uneia ¹] (#413r Pardofells, Pantherinae ¹, Tigrina ¹, Zibethailurus ¹) marmorata Martin, 1837, Proc. Zool. Soc. London, pt. 4 (47), Feb., 108. The marbled cat, Marmelkatze, marmorirte Katze, Dosal, Sikmar. Himalayas from Sikhim to Assam; Baram River; Burma to Malay Peninsula; Malaeca; Sumatra; Java; Borneo.

Rhipicephalus †875.—Ext.

†sanguineus.—Burma; Ceylon; India.

#413 Felis ¹ (Leopardus) mearns! Ailen, 1904, Bul. Amer. Mus. Nat. Hist., v. 20, Feb. 29, 71, costaricensis ^h Mearns, 1902 [not Merriam, 1901], renamed. Costa Rican Ocelot, Manigorda. Talamanca, Costa Rica ^t.

Rhopalopsyllus †1635A.—Ext.

cacicus saevus.—La Cabima ^t, Panama.—T. h.

klagesi samuelis.- Canal Zone.

#413 Felis 1 (#413z Leopardus) melas Péron in Desm., 1820, Eneyel. méth., Mamm., (1), 223. So. #413 Felis 1 (Leopardus) pardus melas, q. v.

#413 **Felis mellivora** Illiger, 1815, Abh. ph.-Kl. K. pr. Ak. Wiss. 1804–1811, 109, 122. Azara's yagouaroundi, Papamel. Brazil ^t. Syn. jaguarondi.

Diphyllobothrium †295.—Intest.

decipiens °.

†latum.

Taenia (Hydatigera or Reditaenia) $\dagger 325c$.—Intest.

†crassicollis 3.

†taeniaeformis.

Aneylostoma †387.—Intest.

tubaeforme i s.

Cylicospirura 468f.

subaequalis.—Tumors of esophagus, stomach.—Brazil.

Filaria 1 †435.

felis-jaguarondi.—Brazil.—T. h. felis-mellivorae (pulmonalis).— Lungs.—Ypanema, Brazil.

Echinopardalis †501m.—Intest.

Aneylostoma †387.—Intest.

Uneinaria 390 B.—Intest.

pluridentatum.—Brazil.—T. h.

[eampanulatus °.]

[pardalis.]

#413 Felis ¹ (#413v Prionaliurus, Oneoides ¹) mlcrotis Milne-Edwards, "Apr. 1871", Rech. Mamm., Paris, 221, pl. 31a, pl. 31b (figs. 1, 1a, 1b). North China (Peiping as far as Mongolia).

Paragonimus †250.—Lungs. †westermani.—Korea.

#413 Felis ¹ minuta Temm., 1824, Monog. Mamm., v. 1, 130. So. #413 Fells (Prionailurus) bengalensis minuta, q. v.

#413 Felis | [or Leopardus |, Panthera |, Pardus |] (#413a' Herpailurus, Oncoides |, Pardina |) mitis | Cuv. in Geoffr. & Cuv., 1820, Hist. Nat. Mamm., v. 1 (18), July, 3. Chati, Mbaraeaya, Tsehati. Patagonia to Brazil. So. F. tigrina, fide Lydekker, 1896a, 144; Elliot, 1904, 449. So. F. pardalis chibiquazou, fide Ihering, 1911, 178.

Diphyllobothrium †295.

decipiens °.

†latum.—Intest.

reptans.—Larva in subcutaneous tis-

Echinococcus †322.

†granulosus.

pardi ⁸.

Taenia (Hydatigera) †325c.—Intest.

†erassicollis⁸.

†taeniaeformis.

Echinopardalis †501m.—Intest. [campanulatus.]

pardalis.

Toxocara †484.

leptoptera.

catholica.

#413 Felis [or Leopardus] (#413x Profelis , Cati , Catopuma) moormensis Hodgson, 1831, Gleanings in Sei., v. 3, 177. Moormikatze. Borneo. Syn. F. murmensis Hogdson, 1835, J. Asiatie Soc. Bengal, v. 4, 522. So. F. temminckii, fide Blanford, 1888, 75; Lydekker, 1896a, 120; Trouess., 1897c, 365.

Toxocara †484.—Intest.
[globulus.—Sunda Islands t.—T. h.]

#413 Felis i [or Neofelis] (#413b Neofelis i, Zibethailurus i) nebulosa s Griffith, 1821, Descript. Vert. Anim. Carnivora, 37. Clouded leopard, elouded tiger, leopard, tree tiger, Arimau-dahan (tree tiger), Kung, Lamehitia, Pungmar, Rimau-Dahan, Sarchaek, Satchuk, Thit-Kyoung, Zik. Sumatra i; Himalaya, from Nepal to Sikhim and Assam; hill regions of Burma and Siam; Malay Peninsula; Borneo; China; Formosa; Java. So. #413 Felis (Neofelis) macrocelis, fide Pocock, 1917, 343.

Diphyllobothrium †295.—Intest. decipiens °.—Calcutta Zoo. felis.—Calcutta. reptans.—Hanoi.

Ancylostoma †387.—Intest.

can in um.

†ccylanicum.— Feces.

Chlamydonema 470I. pracputiale.

Microfilaria †432.—Blood.

[species Plimmer, 1913.—London Zoo, from Malay.]

Galoneus < †385.

perniciosus.

tridentatus.—Large intest. in nodules.—London Zoo.—T. h.

Gnathostoma †473.

†spinigerum.

Habronema †470.

chevreuxi.

Lagochilascaris †487.

minor.

Toxocara †484.—Intest.

†mystax °.

Haemaphysalis †869.—Ext.

gestroi.—Burma t.

†lcachi e.

#413 Felis [or Microfclis t] (Felis) nigripes Burchell, 1824, Travels in Interior Southern Africa, v. 2, 592. Black-footed cat, black-footed wild cat, Burchell's cat, Kakikaan, Tsipa. South Africa (Bamanguato; Deelfontcin; Vredefort Road, Orange River Colony; Bechuanaland; Kalahari Desert).

Haemaphysalis †869.—Ext. †lcachi e lcachi.—Transvaal.

#413 Felis [or Lynx] (Caracal, Lynchus) nubica (Fischer, 1829, Synopsis Mamm., 210 [F. caracal]) Trouess., 1897c, Cat. Mamm., Berolini, v. 1, 367. So. #413 Felis (Lynx) caracal nubica.

#413 Felis (#413m Felis) ocreata Gmel., 1791, Anhang zu Bruce, Reisen Afr., 79. African wild cat, booted lynx, Egyptian wild cat, Kafir cat, Chat ganté, Wilde kat, Phagi. Africa, exclusive of forest-zone and Sahara; Sardinia; formerly in Gibraltar. "Apparently crossed with F. catus, and thus forming possibly chief progenitor of European domesticated cat."

Babesia †173.—Blood.

felis.—Sudan t.—T. h.

species Davis, 1929.—Sudan.—Host

"Sudanese wild cat". Taenia (Hydatigera) †325c.

†tacniacformis.—Intest.

Cylicospirura 468f.

felineus .

subaequalis.—Tissues of csoph.—Al-

Habronema †470.—Stomach. chevreuxi.—Algeria t.—T. h. Protospirura 470B.—Stomach. numidica.—Setif.—T. h.

Ctenocephalides †1639.—Ext. felis strongylus.—Africa t.

Xenopsylla †1636.—Ext. nubicus.—Darfur, Africa.

#413 Felis [†] [or Chaus ^{*}, Lynx ¹] (#413m Felis [†]) ocreata cafra (Desm., 1822, Encycl. méth., Mamm., (2), 549) Fitzsimons, 1919, Nat. Hist. S. Afr., v. 1, 146. Bull Head, Caffer cat, Caffre cat, Kafir cat, Vaal Bush Cat, Wild cat, Wilde Kat, Graauw-kat, Imbodhla, Impaka, Ingada, İnxataza. Africa, from Egypt and Algeria to the Cape; southern Asia (Syria, Arabia); southern Europe; Id. Sardinia; ? Morea. Breeds freely with domesticated cat. Syns.: Chaus caffer ^c Gray, 1843, List Mamm. Coll. Brit. Mus., 45; caffra ^c Blanford, 1888, Fauna Brit. India, Mamm., 86.

Diphyllobothrium †295.—Intest. theileri.—Pretoria, S. Africa.

Dipylidium †308.-- Intest.

fuhrmanni.—Pretoria, S. Africa.

Chlamydonema 470*I*.—Intest. felineum *.—Transvaal.

Trichodectes †1100.—Ext.

caffra.—Block Spruit ^t, Transvaal.— T. h. #413 *Felis | [or Leopardus |, Panthera, Pantherinae, Pardina |, Pardus |, Uncia |] (#413d' Panthera, Felis |, Leopardus |, Pardina |, Yaguarius |) onca Linn., 1758a, 42. American tiger, Jaguar, tigre, Unze, Cangussú, Jaguareté, Onça Pintada, Onça Preta. Pernambuco |, Brazil |; North & So. America, from Louisiana, Texas, and northern Mexico to about the Rio Negro, on the northern confines of Patagonia.

Diphyllobothrium †295.—Intest.

decipiens °.

†latum.—Zoo, Buenos Aires, Argentina.

Taenia (Hydatigera) †325c.—Intest. †crassicollis *.

 $\dagger taeniae form is.$

Ancylostoma †387.—Intest.

†*caninum.—Washington, D. C. tubaeforme i s.

Dirofilaria †447, 449A.—Heart.

†immitis.—Surinam.

[species Horst, 1889.—Surinam.—
"Probably immitis."]

Filaria 1 †435.

felis-oncae.—Intermusc.—Brazil ^t. felis-oncae (intermuscularis)^{p s}.—Intermusc.—Brazil.

Physaloptera 470H.—Stomach.

anomala.—Brazil ^t; Dutch Guiana.—T. h.

Toxocara †484.—Intest.

crenulata.—T. h.

leptoptera e.

Uncinaria 390B.—Intest.

catholica.

Echinopardalis †501m.—Intest.

 $[campanulatus\ ^{\rm s}.{\rm --Brazil.}]$

pardalis.

Oncicola †501o.

oncicola.—Stomach, intest.—Brazil.—T. h.

Amblyomma †881.-Ext.

 $\dagger fossum.$

†ovale.

Dermacentor †873.—Ext.

†*electus s.—Cf. variabilis.

Ixodes †866.—Ext.

 $\dagger bicornis.$ —Mexico.—T. h.

†ricinus.

Linguatula †800.

recurvata.—Frontal sinus, trachea.—

r. n.

 $\dagger serrata.$

 $\dagger taenioides.$

Dermatobia †1575.

†cyaniventris.—Larvae subcut.—America.

Pulex †1635.—Ext.

†irritans.—Brazil.

#413 *Felis 1 oregonensis Rafinesque, 1832, Atlantic J., Phila., v. 1 (2), 62 [Felix m]. So. #413 Felis (Puma) concolor oregonensis.

#413 Felis [or Chaus, Lynx 1] (#413m Felis, Chaus, Oncoides 1) ornata Gray, 1830, Illustr. Ind. Zool., v. 1 (2), pl. 2. The Indian desert cat. India.

Haemaphysalis †869.—Ext.

bispinosa.

bispinosa intermedia.—India.

#413 Felis [or Leopardus] (#413d' Panthera, Leopardus) panthera. A confused name.

New World. Schreber, 1777, Säugth., v. 3, 384, 586, pl. 99 (1776). A jaguar. So. #413 Felis (Panthera) onca, q. v.

Old World. Erxl., 1777, Syst. Regn. Anim., 508; Pallas, 1811, Zoog. Ross.-As., v. 1, 18. A leopard. So. #413 Felis (Panthera) pardus, q. v.

Echinococcus †322.

†granulosus.

Ancylostoma †387.—Intest.

tubaeforme i s.

Ixodes †866.—Ext.

†pilosus.

#413 *Felis ¹ [or Leopardus, Panthera ¹, Pardus ¹] (#413z Leopardus, Felis ¹, Oncoides, Pantherinae ¹, Pardina ¹, Zibethailurus ¹) pardalis Linn., 1758a, 42. Mexican ocelot, True ocelot, tiger cat, Ozelot, Pardelkatze, Manigordo. Mexico ¹; America, as far north as Arkansas, Louisiana, Texas, and Mexico; thence through Central Amer. to S. Amer. cast of Andes, south to Patagonia.

Diphyllobothrium †295.—Intest. decipiens °.

reptans.—Larva subcutaneous.

Taenia (Hydatigera) †325c.—Intest. †crassicollis *.

Ancylostoma †387.—Intest.

†*caninum.—Washington, D. C., Phila. Zoo.

*pluridentatum.—Phila. Zoo.

ANCYLOSTOMIDAE †384.—Intest.

species Weidman, 1923.—Phila. Zoo.

Ascaris 1 †479.

species Stiles & Hassall, 1894c.— D. C.

Dirofilaria 449A.

species Canavan, 1931.—Phila. Zoo. striata.—Subeutancous.—Surinam.

Gnathostoma †473.

 $\dagger spinigerum. — Stomach. — Phila. \ Zoo.$

Oslerus 473D.

felis.—Lungs or sm. intest?—Hamburg from S. America.—T. h.

Toxocara †484.—Intest.

leptoptcra 8.

†mystax.—Phila. Zoo.

Trichuris †370.—Intest.

species Canavan, 1931.—Phila. Zoo.

Uncinaria 390B.—Intest.

species Weidman, 1923.—Phila. Zoo.

Echinopardalis †501m.—Intest.

[campanulatus.—Brazil.—T. h.—So. pardalis.]

pardalis.—Brazil.—T. h.

Amblyomma †881.—Ext.

†*americanum.

†*unipunctatum *.—Labrador; Florida, Pennsylvania ^t.

Ixodes †866.—Ext.

*affinis *.—Costa Rica; U. S. A.—T. h.

affinis communis °.—Costa Rica.—T. h.

fuscipes.—Panama; S. America; Brazil ^t, Colombia.

†*reduvius *.—U. S. A.

†*ricinus.

†scapularis.

Ctenocephalides †1639.—Ext. †felis.

#413 Felis ¹ [or *Lcopardus*] (#413z **Leopardus**) pardalis mearnsi (Allen, 1904, Bull. Amer. Mus. Nat. Hist., v. 20, Feb. 29, 71) Elliot, 1904, Land & Sea Mamm., Zool. ser., v. 4 (1), 448. Costa Rica Ocelot. Talamanca, Costa Rica ^t. So. #413 Felis (Leopardus) mearnsl.

#413 Felis ¹ [or Prionailurus ⁸] (#413v Prionailurus ^t, Oncoides ¹) pardochroa ⁸ Hodgson, 1844, Calcutta J. Nat. Hist., v. 4, 286. Nepal. Var. of F. bengalensis, fide Trouess., 1897c, 358; so. F. bengalensis, fide Blanford, 1888, 78; Lydekker, 1896a, 126; fide Pocock, 1917, 338.

Toxocara †484.

†mystax °.

[species Glane, 1910.]

#413 Fells ¹ [or Leopardus ¹, Panthera ⁸, Pardus ¹] (#413d' Panthera, Felis ¹, Leopardus ¹, Pantherinac, Pardina ¹) pardus Linn., 1758a, 41. Large spotted cat, Leopard, Panther (part), Pard (part), tiger (in S. Afr.), afrikanischer Tiger, Parder, Parther, Adnára, Asnea, Bai-hira, Bibia-bágh, Bibla, Bíbta, Borbacha, Burkál, Chinna-pali, Chinna-puli, Chirate, Chirchu, Chiru-thai, Chita, Chíta-Bágh (spotted tiger), Chíta-Wagh, Chóta-Bágh, Diho, Ghor-hé, Goral-hé, Gorbacha, Gordág, Harvard, Hasánya, Hongiya, Honiga, Hnrrea-kon, Ingwe, Ingwi, Inkwi, Jerkos, Kajengla, Kam-kei, Karda, Kekhi, Kerkal, Kiché-phong, Kiraba, Kírrbah, Kla-preung, Kurrkuda, Kutiya, Kya-lak, Kya-thit, Lakhar-bagha (hill tribes near Simla, clsewhere used for the hyaena), Misi-patrai, Morrh, Ngo, Nyalugwi, Palang,

Pali, Puli, Rimau-bintan, Rimau-bintang, Rusa, Sannhuli, Sejjiak, Shabel, Sik, Singhal, Siveri, Sona-ehita (golden chita), Sonora, Srighas, Súh, Syiak, Syik, Tahir-hé, Tehr-he, Tekhu Khuia, Tenderwa, Tendwa, Tenduwa, Teon-Kula, Théndwa, Tidua, Tijger, Vlaekte tijger. Old World: Africa (Egypt ¹); Asia Minor, the Caucasus, Syria, Palestine, Persia, Baluchistan, Afghanistan, Central Asia, India, Assam, Burma, Ceylon, the Malay Peninsula, Siam, China, Manchuria, Java, Sumatra, Asia.

Endamoeba †37.

[species Houdemer, 1925.—Intest.— Tonkin.]

Diphyllobothrium †295.—Intest.

dccipiens °.—Brazil; Calcutta Zoo.

felis.—Calcutta Zoo.

[felis-pardi ^a.—Paris Mus.—T. h.] †latum.

maculatum s.—Caleutta Zoo.—"Fe-lis, Leoparden t. h."

[pardi o.]

reptans.—Larva in subcutaneous tissue.

species Joyeux & Mathias, 1926.— Dongou (Ouellé).

sulcatum s.—Calcutta Zoo; Padua t, Italy.—T. h.

Dipylidium †308.—Intest.

species Joyeux, 1920.—Upper French Guinea.

Echinocoecus †322.

†granulosus.

pardi s.—T. h.

Multiceps †324.

[species Southwell, 1922.—Calcutta Zoo.—So. multiceps.]

Taenia (Hydatigera) †325c.—Intest. serrata s.

†taeniaeformis.

Taenia (Taenia) †325b.—Intest. †pisiformis.—South Ceylon. polycalcaria *.—Ceylon *.—T. h.

Aneylostoma †387.—Intest.

†brasiliense.—Sierra Leone Leopard. †caninum.—Sierra Leone Leopard. †ceylanicum.

tubaeforme i 8.

Chlamydonema 470I.

felineum 8.

praeputiale.—Zanzibar; India.

Cylicospirura 468f.

subacqualis.—Intest.—Sierra Leone.

Dirofilaria 449A.

granulosa.—S u b e u t.—Königsberg Mus.—T. h.

Dracunculus †439.

medinensis.

Galoncus < †385.

perniciosus.—Cysts, small intest.— Belgian Congo; Calcutta Zoo.

Gnathostoma †473.

†spinigerum.—Gastrie wall, small intest.—Belgian Congo.

Habronema †470.

grimaldiae.—Stomach.—Algeria.—In "panther."

Haemostrongylus <†418.

subcrenatus.—Bronchi.—Belgian Congo.—T. h.

vasorum.

Physaloptera 470H.

terdentata.

Toxascaris †486.—Intest.

leonina.

Toxocara †484.—Intest.

†cati.—Tonkin.

[circumflexa s.—Stomach.—Pa-dua.—T. h.]

†mystax •.—India.

Trichonema †395m.—Intest. nassatum.—Tonkin.

Echinopardalis †501m.—Intest. [ovatus h.]

pardalis.

Echinorhynehus 1 †502. pardi.

Oncicola †501o.

oncicola.—Stomach, intest.

Amblyomma †881.—Ext.

tholloni.—Belgian Congo.—Leopard.

Armillifer †796.—Encysted.

†armillatus i.—[? Africa].—Indian

†moniliformis.—[?India.]

Dermacentor †873.—Ext.

auratus.—United Prov., India.

Haemaphysalis †869.—Ext.

koningsbergeri ⁸.—Java ⁴.—T. h. †leachi ⁶.—S. Africa.
papuana.—Java.

parva.—India. spinigera.

Ixodes †866.—Ext.

oldi.—Chirinda, S. Rhodesia; Africa. †pilosus.—Cape Province, Orange Free State, Africa.

pilosus howardi.

†rasus.—Belgian Congo.—Ashanti.— Leopard. LINGUATULIDAE †792.

species Bequaert, 1930.—Liver.— Belgian Congo.

Porocephalus †798.

†crotali.—Larva encysted in body eavity, etc.—Confusion j of parasite or of host?

Echidnophaga †1633.—Ext. larina.

#413 Felis 1 (#413d' Panthera, Leopardus 1) pardus antiquorum Ham. Smith in Griffith's Cuv., 1827, Anim. Kingd., Mamm., Syn., 165. Indian local race of F. pardus, Atlas leopard, Morocco leopard. Old World (Ceylon, India, Morocco and neighbouring countries).

Habronema †470.

chevreuxi.—Tumors in stomach.—Algeria. grimaldiae.—Stom.—Algeria.

#413 Felis [or Leopardus ¹, Panthera] (#413d' Panthera, Leopardus ¹) pardus leopardus (Schreb., 1777, Säugeth., v. 3, 387, pl. 101 (1776)) Lydekker, 1896, A Handbook to the Carnivora, 71. West African leopard, Panthère d'Afrique. Africa (West Africa ^t); Asia (Persia, India); Asia Minor.

Diphyllobothrium †295.—Intest.

decipiens °.

maculatum 8.

Ancylostoma †387.—Intest.

tubaeforme i.

Echinopardalis $\dagger 501m$.

[ovatus h s.—Small intest.]

Haemaphysalis †869.—Ext.

†leachi.

Ctenocephalides $\dagger 1639.$ —Ext.

 $\dagger felis.$

Echidnophaga †1633.—Ext.

larina.—Daroli, Abyssinia.

#413 Felis (#413d' Panthera) pardus melanotica Günther, 1885, Proc. Zool. Soc. London, 243, pl. 16; 1886, Proc. Zool. Soc. London, 203–205. Cape leopard. Grahamstown district ^t, Africa.

Haemaphysalis †869.—Ext.

†leachi.

Ixodes †866.—Ext.

†pilosus.

Echidnophaga †1633.—Ext.

larina.—S. Africa.

#413 Felis ¹ (#413z Leopardus) pardus melas (Péron in Desm., 1820, Eneyel. méth., Mamm., (1), 223) Blanford, 1888, Fauna Brit. India, Mamm., 69. Indo-China; Java; Sumatra. A black variety of F. pardus; the occurrence of black and spotted cubs in the same litter having been repeatedly recorded, fide Blanford, 1888, 69. So. F. pardus, fide Lydekker, 1896a, 71; so. F. pardus variegata, fide Trouess., 1897c, 354.

Diphyllobothrium †295.

species Southwell, 1922.

Toxocara †484.

†mystax o.

[species Glaue, 1910.]

#413 Fells (#413d' Panthera, Leopardus) pardus orientalis (Schlegel, 1857, Handleiding Beoef. Dierkunde, v. 1, 23, pl. 2, fig. 13) Trouess., 1897c,

Cat. Mamm., Berolini, v. 1, 354. Luipaard van Korea. Korea ^t ; Amur, Asia.

Paragonimus †250.

†westermani.—Korea.

Diphyllobothrium †295.—Intest.

†mansoni.—Korea.

#413 Felis (#413d' Panthera, Leopardus) pardus suahelica (Neumann, 1900, Zool. Jahrb., Syst., v. 13, 551 [F. leopardus]) Lydekker, 1908, Game Anim. Afr., 428. German E. Africa into Uganda.

Chlamydonema 470I.

praeputiale.—Tanganyika.

Haemaphysalis †869.—Ext. †leachi.—Tanganyika.

#413 Felis ¹ (#413d' Panthera, Leopardus ¹) pardus viliosa (Bonhote, 1903, Ann. Mag. Nat. Hist., ser. 7, v. 11, 475) Lydekker, 1907, Game Anim. India, Burma, etc., London, 316. Manchurian leopard. Amur Bay ^t, E. Siberia.

Diphyllobothrium †295.—Intest. decipiens °.—China.

#413 Felis pardus h Pallas, 1811, Zoogr. Ross.-As., v. 1, 17 [not Linn.]. Afgansch, Bars, Chachai, Irbis, Kúnik, Once, Pu-pi, S'tagg, Tóra, Unza. So. Felis (Leopardus) uncia, fide Trouess., 1897c, 353.

#413 Felis ¹ [or Aelurina ^t, Ailinura ^t, Ailurina ^t, Ailurogale ^t, Catus ¹, Chaus ¹, Ictailurus ^t, Plethaelurus ^t, Viverriceps ¹] (#413d Ictailurus, Ailurin ^t, Cati ¹, Felis ¹, Pardina) planiceps Vig. & Horsf., 1827, Zool. J., v. 3 (2), 450. Flat-headed cat, little fire cat, little Malayan red cat, rusty tiger cat, Hechtkatze, Marderkatze. Baram River, Sarawak, Borneo; Malacca; Malay Peninsula; Mount Dulit; Sumatra.

Alaria < †223j.—Small intest.

species Cameron, 1928.—London Zoo, from Malay States.

Platynosomum †276*I*.—Small intest. planicipitis.—London Zoo, from Malay States ^t.—T. h.

Aelurotaenia < †310.—Intest.

planicipitis.—London Zoo, from Malav States t.—T. h.

Cysticercus †326.

species Cameron, 1928.—London Zoo, from Malay States.

Ancylostoma †387.—Intest.

†brasiliense.—London Zoo, from Malay.

Capillaria †372b.—Sm. intest.

species Cameron, 1928.—London Zoo, from Malay.

Dirofilaria 449A.

species Cameron, 1928.—Connective tissue.—London Zoo, from Malay.

Filaria †435.

species Cameron, 1928.—Connective tissue.—London Zoo, from Malay. Gnathostoma †473.

species Cameron, 1928.—Mesentery.—London Zoo, from Malay.

Nematostrongvlus < †411.—Intest. planicipitis.—London Zoo, from Malay.—T. h.

Porrocaecum †476u.—Intest.

species Cameron, 1928.—London Zoo, from Malay.

SPIRUROIDEA †455.

species Cameron, 1928.—Encysted.—London Zoo, from Malay.

Strongyloides †355.

species Cameron, 1928.—London Zoo, from Malay.

Toxocara †484.—Intest.

†mystax °.—London Zoo, from Malay.

Armillifer †796.—Encysted. †moniliformis.—Asia ^t.

[wedlii *.—T. h.]

- #413 Felis (Uncia) puma Molina, 1817, Sagg. Stor. Nat. Chili, 245. So. #413 Felis (Puma) concolor puma.
- #413 Fells ¹ [or Panthera ¹, Prionailurus ⁸, Serval ¹, Viverriceps ¹] (#413v Prionailurus, Oncoides ¹, Pardina ¹, Servalinae ¹) rubiginosa Geoffr., 1834, Bélanger's Voy. Indes Orient., (2), 140. Rubiginous cat, Rusty-spotted cat, Röthelkatze, Ark-Philli, Coolla-deeya, Kiraba-Bekku, Kula diya, Namali pilli, Verewa-poony, Verewa puni. Pondicheri, Madras ; Ceylon; India.

Ancylostoma †387. minimum.—Stomach.— Ceylon.— T. h.

Echidnophaga †1633.—Ext. †gallinacea.—Transcaspia i.

Physaloptera 470H. brevispiculum.— Stomach.— Ceylon t.-T. h.

#413 *Felis | [or Lynx *, Lynchus *, Lyncus *] (#413n Lynx, Cervaria h, Eucervaria , Lynces, Lynchus) rufa Schreber, 1778, Säugth., v. 3, 412; Kerr, 1792a, Anim. Kingd., 158. American wild cat, Bay lynx, red lynx, shorttailed cat, wild cat, Rothluchs, Chimbi, Cochinnes, Gato montes, No-mé. New York t, North America generally.

Babesia †173.—Blood.

species Wenyon & Hamerton, 1930.— London Zoo, from N. America.— Resembles B. felis.

Giardia †139.

*species Hegner, 1924.—Feces.— Zoo, Baltimore.

Paragonimus †250.—Lungs.

†*westermani.—Phila. Zoo.

Taenia + †325.

balaniceps. macrocystis.

Ancylostoma †387.—Intest. †caninum.—Duodenum. pluridentatum.—Phila. Zoo. tubaeforme i a.

ANCYLOSTOMIDAE †384.—Intest. species Weidman, 1923.—Phila. Zoo.

Ascaris 1 †479.

*species Stiles & Hassall, 1894e.— D. C.

Dirofilaria 449A.

species Canavan, 1931.—Phila. Zoo.

Filaria †435.

*fasciata.—Muscles, intermuse.— Wild cat.—Phila.

Microfilaria †432.—Blood.

[species Plimmer, 1917.—London Zoo, from Mexico.]

Solenonema < †440.

striatum.—Thigh muscles.

Toxascaris †486.—Intest.

*leonina.—Phila. Zoo.

Toxocara †484.—Intest.

†*canis.—Texas.

marginata °.

 $\dagger mystax \circ$.

Uncinaria 390B.—Intest.

*species Weidman, 1916.—Phila. Zoo.

Notoedres †936.—Skin.

†minor cati.

Ceratophyllus †1627.—Ext.

*nepos dieteri.-Los Angeles Co. t, Calif.—T. h.

Felicola < †1099.—Ext.

*subrostratus.—Calif.

#413 Felis (#413n Lynx, Lynchus) rufa californica (Mearns, 1897, Proc. U. S. Nat. Mus., v. 20, 458 [Lynx]) Trouess., 1897c, Cat. Mamm., v. 1, 368. California lynx. San Diego ^t, California. Felicola < †1099.—Ext.

*subrostratus.—Calif.

#413 Felis 1 (#413n Lynx, Lynchus) rufa maenlata h 3 (Horsf. & Vig., 1829, Zool. J., v. 4 (15), Jan., 381 [not Felis (Lynx) vulgaris maculata Kerr, 1792a, Thibet lynx]) Trouess., 1897c, Cat. Mamm., v. 1, 368. Renamed #413 Felis (Lynx) rufa texensis, q. v.

#413 Felis [or Lynx] (#413n Lynx, Cervariah, Eucervaria) rufa texensis (Allen, 1895, Bul. Amer. Mus. Nat. Hist., v. 7, June 20, 188 [Lynx], renaming of rufa maculata ^h (Horsf. & Vig.)) Mearns, 1897, Prelim. diag. new mamm. genera Lynx, etc. from Mexican bound. line, Jan. 12, 2 [Lynx rufus]. Spotted Lynx, Wild Cat, Gato montes (for all Lynxes in Mexico). Mexico ^t.

Taenia r †325.

*balaniceps.—Nevada; S. New Mexico.

Ancylostoma †387.—Intest.

†*eaninum.—Phila. Zoo.

ANCYLOSTOMIDAE †384.—Intest.

*species Weidman, 1923.—Phila. Zoo. Subulura 488 W7.—Intest.

*distans.—Phila. Zoo.

Toxascaris †486.—Intest.

*leonina.—Phila. Zoo.

Toxocara †484.—Intest.

†*mystax.—Phila. Zoo.

Uncinaria 390B.—Intest.

*species Weidman, 1916.—Phila. Zoo.

#413 Felis [or Galeopardus, Leopardus ¹, Leptailurus ¹, Serval ^h, Zibethailurus ¹] (#213f Leptailurus ^t, Lepailurus ^m, Scrvalina, Scrvalinae, Zibethailurus ¹) serval Müller in Linn., 1776, Syst. Nat., Suppl., 30; Schreb., 1777, Säugth., v. 3, 407, pl. 108 (1776); Erxl., 1777, Syst. Regn. Anim., 523. African serval, Tegree cat, afrikanische Tigerkatze, Serval, Bosch-Katte, Buschkatze, Indhloti, Indhlozi, Tali, Tijger-bosch-kat (Tiger Bush cat), Tijger-kat, Tlodi. Africa, from Algeria to the Cape of Good Hope.

Trypanosoma †94.—Blood.

species Week, 1914.—Africa.

Diphyllobothrium †295.—Intest. decipiens °.—Yei, Belgian Congo. thcileri.—Pretoria, S. Africa.

Dipylidium †308.—Intest.

chyzeri.—Yei, Belgian Congo. fuhrmanni.—Pretoria, S. Africa.

Sparganum †293.

species Shipley, 1902.—Yei, Belgian Congo; Sudan.

Toxascaris †486.—Intest.

leonina.—Breslau.

Toxocara †484.—Intest.

†mystax o.

[species Gendre, 1928.]

[species Glaue, 1910.]

[species Henry & Joyeux, 1920.— Kouroussa.]

Armillifer †796.

†armillatus.

Haemaphysalis †869.—Ext.

†leachi • leachi.

#413 Felis ¹ (#413f Leptailurus, Zibethailurus ¹) serval eapensis (Forster, 1781, Phil. Trans., v. 71 (1), 4; Gmel. in Linn., 1788, Syst. Nat., v. 1, 81; Shaw in Miller, 1796, Cim. Phys., 76) Trouess., 1897c, Cat. Mamm., Berolini, v. 1, 356. So. #413 Felis (Leptailurus) capensis, q. v.

#413 Felis r (#413n Felis r, Catus °) silvestris Schreb., 1777, Säugthiere, v. 3, 397 [Felis (Catus °)]. Wild cat of Europe. Germany t; Central and Southern continental Europe from northern Spain to northern Germany, and from the Atlantic coast eastward at least to Black Sea; eastern limits of range not known. Syn. sylvestris ° Billberg, 1828, Syn. Faun. Scand., ed. 2, v. 1 (1), 46.

Alaria <†223j.—Intest.

alata.—Braila, Rumania.

Metorchis †267i.

albidus.—Liver, gall bladder.—Braila, Rumania.

Pharyngostomum < †223j.—Intest. eordatum.—Europe ^t; Braila, Rumania.—T. h. Diphyllobothrium †295.—Intest.

 $decipiens \ ^{\rm o}.$

felis.

Dipylidium †308.—Intest.

tcaninum.

[cunciceps 8.]

[elliptica o.]

trinchesei.—Syn. trinchesii d.

Mesocestoides < †299.—Intest. lineatus.—Ilsenburg Forest t.—T. h. litteratus. longistriatus. Taenia (Hydatigera or Reditaenia) †325c.—Intest. †crassicollis 8. species Bellingham, 1844.—North Ireland.—? So. taeniaeformis. taeniaeformis.—England. Ancylostoma †387.—Intest. balsami.—Italy. †caninum. [balsami felis Zuern, 1882a, for baltrigonocephalum 1. Capillaria †372b. [cati.—T. h.] felis-cati.—Intest., urinary bladder.— Europe; Ireland. linearis .- Small intest.-So. ?feliscati.—Host confusion (U. S. A.)? [species Creplin, 1846.] #413 Felis 1 sondiaca (Fitzinger, 1868, Sitzungsber. Akad. Wiss., Wien, v. 58 (3-4), 454 [Tigris]). So. #413 Felis (Panthera) tigris sondiaca, q. v. #413 Felis species, often in sense of "wild cat" (cf. Felis silvestris) other than European wild cat. Trypanosoma †94.—Blood. species Weck, 1914.—Africa.—Wild cat. Alaria < †223j.—Intest. alata.—Chat sauvage. Clonorchis †268.—Liver. †sinensis.—China.—Wild cat. Metorchis †267i. albidus.—Gall bladder.—Chat sau-Paragonimus †250.—Lungs. †westermani.—Korea.—Wild cat. Diphyllobothrium †295.—Intest. decipiens o.-Peking, China.-Wild cat. Dipylidium †308.—Intest. species Meggitt, 1927.—Wild cat. Echinococcus †322. omissa. Mesocestoides < †299.—Intest. lineatus.—Wild cat. longistriatus. — Ghinda t, Eritrea.— Toxocara †484.—Intest.

Gatto selvatico t. h. Ancylostoma †387.—Intest.

†*caninum.—Wild cat.

Gnathostoma †473. †spinigerum.—Gastric wall. Liorhynchus < †495. [cati-feri.—Stomach wall.—Vienna Mus.species i Rudolphi, 1819a.—Intest., stomach.—Vienna Museum. Toxocara †484.—Intest. tcanis. [canis fclis o.—Host i.] [†cati.] †mystax o.—Europe. Trichonema $\dagger 395m$. [affinc.—Intest.—Ghinda, N. E. Africa.—T. h.] Ixodes †866. ricinus. Linguatula †800. †serrata. Spilopsyllus †1634.—Ext. †cuniculi.—Europe. Capillaria †372b. *felis-cati.—Intest., urinary bladder.—U. S. A. Chlamydonema †469d, 470I. [malayensis.—Tiger cat, bush cat.] Dracunculus †439. †medinensis.—Wild cat. Filaria †435. *fasciata.—Philadelphia.—Wild cat. species Weidman, 1923.—Phila. Zoo.-Wild cat. Oesophagostomum †400. ventri. — Stomach. — Brazilian wild cat t. h. Physaloptera †469, 470H. vandenbrandeni. — Intest. — Leopoldville.—Wild cat. Spirocerca 468G. ? * sanguinolenta. — Tumors. — Texas.—Wild cat.

[†cati.]

†*mystax a o.—U. S. A.

Ixodes †866.—Ext.

*bifureatus s .- Texas t .- Wild cat

Dermacentor †873.—Ext. bifureatus. †variabilis. †venustus.—Probably †873 #413 Felis species (miscellancous). Isospora †161. species Triffitt, 1927, 62-63.— Feces.—London Zoo.—Eyot-cat. Trypanosoma †94.—Blood. species Weck, 1914.—Africa.—Leop-Alaria $< \dagger 223j$. alata. Clonorchis †268.—Liver. †endemieus *.—"Cats." Metagonimus †273. †yokogawai.—Syn. yokogawi^m. Metorchis †267i. albidus. Opisthorchis †267. *pseudofelineus.—Rice Institute, Texas.—Persian cat. Paragonimus †250.—Lungs. †ringeri.—Korea.—Panther. twestermani.—Korea.—Panther, Parameteris <†265. eomplexus.—Rice Institute, Texas.— Persian cat. Pharyngostomum < †223j. eordatum. Platynosomum †2761. [symmetrieum *: Dicrocoelium + laneeatum.—Liver.—Georgetown t, Brit. Guiana.—Cat t. h.] **Prohemistomum** < †223j.—Intest. appendiculatum.—Rumania. Dipylidium †308.—Intest. †eaninum.—Egypt; India.—"Cat." eatus.—Almora t, United Prov., India.—"Siamese cat" t. h. Echinococcus †322. †granulosus.—Larva in panther. Taenia $^{1} < ^{\dagger}299$. species Moniez, 1880a.—Panther. Taenia + †325.—Intest. maeroeystis.

triserrata.—Paraguay^t.—T. h.

Taenia (Tacnia) †325b.—Intest.

novella.

 $[=?rufa\ texensis].$ †reduvius s. †rieinus. Ctenocephalides †1639.—Ext. †felis.—Palawan, P. I.—Wild cat. Ancylostoma †387.—Intest. †*brasiliense.—Tonkin.—Panther. †*eaninum.—Europe; N. America. †eeylanieum. *pluridentatum.—Washington Zoo. [trigonocephala¹.] Capillaria †372b. pliea.Chlamydonema 470I. praeputiale.—Malay tiger; panther. Cylicospirura 468f. subaequalis. Galoncus $\leq †385$. perniciosus.—In intestinal cysts.— Berlin Zoo.—Panther. Gnathostoma †473. species Houghton, 1913.—Shanghai, †species Morishita & Faust, 1925.— Stomach.—China. Habronema †470. ehevreuxi.—N. Africa.—Panther. grimaldiae.—N. Africa.—Panther. Physaloptera 470H. species Milne, 1912.—Stomach.— Jhansi, India. Spirocerca 468G. sanguinolenta.—Exp.—China. Spirura 468e. [gastrophila.—Intest.—Cat.] Strongylus †378a. species Dubler, 1892a.—Nodules of intest.—Zool. Garden, Switzerland.—Panther. Syngamus †407. dispar.—Trachea, and in lungs of pullia. Toxocara †484.—Intest. [†eati.—Panther from Tonkin.] †mystax o.—"American wild cat". [mystax o felis o.—S. Africa.—Black footed cat.] [teres fclis.] Uncinaria 390B.—Intest. species Railliet, 1900. stenocephala.

Corynosoma †501s. strumosum. Echinopardalis †501m. [campanulatus o.] Echinorhynchus †502.

pardi: Echinor.1 species Braun, 1893.—Intest.—Germany.

Armillifer †796. †armillatus.

Dermacentor †873.—Ext.

†*variabilis.

†*venustus !.—So. †andersoni.

Haemaphysalis †869.—Ext. †leaehi e leachi. parva.—Panther.

Hyalomma †880.—Ext. †acgyptium.

Ixodes †866.—Ext.

*brunneus.—N. America t.

†*hexagonus. tholoeyelus.

oldi.—Chirunda, S. Rhodesia; Sierra Leone t, W. Africa.—Bush cat t. h., leopard, panther.

†pilosus.—Leopard.

pilosus howardi. *pratti.

trasus.

reduvius.—Leopard, *panther ;.

trieinus.—Panther.

#413n Lynx species.

Isospora †161.

Triffitt, 1927, 61-62. species Feces.—London Zoo.—Lvnx.

Heterobilharzia $\leq †280$.

*americana.—Mesenteric veins.— Zoo, Washington, D. C.—T. h. Probably #413 Felis uinta.

Mesocestoides < †299.—Intest. species Hall, 1910.

Linguatula †800.

†tacnioides *.

Microtrombidium †960a; †974.—Ext. †pusillum.

Notoedres †936.—Skin. cali.

Otobius †862.—Ear.

[†*megnini.]

Otodectes †944c.—Ear. [auricularum 8.]

Rhipicephalus †875.—Ext.

haemaphysaloides.—Bishar, Punjab, India.—Leopard. †sanguineus.

Trombicula †970.—Ext. †autumnalis.—Claws, tail.

species Sambon, 1928.

Trombidium †977.—Ext. †striaticeps.

Acanthopsylla < †1626.—Ext. saphes.—Victoria t, Australia.—Native cat t. h.

Ceratophyllus †1627.—Ext. anisus.—Yokohama t, Japan.

Ctenocephalides †1639.—Ext. †felis.—Pampas Katze.

Hoplopsyllus †1628.—Ext.

exoticus.—Boquete t, Panama.— T. h.

Rhopalopsyllus †1635A.—Ext. †lugubris.—Peru.

Chlamydonema 470I.

malayense.

Rhipicephalus †875.—Ext. †sanguineus.—Lynx.

Ceratophyllus †1627.-Ext.

thambus.—Red Deer t, Alberta.— T. h.

Pulex †1635.—Ext. †irritans.—Alberta.

#413 Fells sylvatica. Probably for #413 Felis (Felis) silvestris, q. v. Dipylidium †308.—Intest.

[aegyptiea: Joyeuxia.—T. h.]

#413 Fells sylvestris · Billberg, 1828, Syn. Faun. Scand., ed. 2, v. 1 (1), 46. So. #413 Felis (Felis) silvestris.

#413 Tigris teguexim. See #413 Felis (Lynx) rufa texensis.

#413 Felis [or Catus], Panthera], Profelis, Pyrofelis [] (#413n Profelis, Cati], Catopuma t, Pardina t) temminekii Vig. & Horsf., 1828, Zool. J., v. 3, 451, tab. suppl. 22. Bay cat, Golden cat, Fuchskatze. Asia (Sumatra t), Himalayas and China to Indo-Malaysia (Nepal, Sikhim, Tenasserim, Borneo, Burma, Malay Peninsula).

Ancylostoma †387.—Intest. †brasiliense. †caninum.

Arthrostoma < †384.—Intest. felineum.—Sumatra.—T. h. Chlamydonema 470I.

malayensc.—Calcutta, India.

Microfilaria †432.
[species Plimmer, 1912.—Sumatra.]

Strongyloides †355.—Intest.

species Cameron, 1927.—Sumatra.

#413 Felis ¹ [or Herpailurus ^s, Margay ^t, Oncoides ¹] (#413a' Herpailurus, Leopardus ¹, Oncoides ¹, Pantherinae ¹, Pardina ¹) tigrina Schreb., 1777, Säugthiere, v. 3, 396, pl. 106 (1776); Erxl., 1777, Syst. Regn. Anim., 517. The Margay, Tiger cat, Maragua, Marguay, Tigerkatze, Cauzel. Cayenne ^t, South America ^t; America; from Mexico southward on east side of Andes as far as Paraguay and wooded interior districts of Argentina. Perhaps Trinidad.

Bothridum < †292. megalocephalum °.

Diphyllobothrium †295.—Intest.

 $decipiens \circ.$ $\dagger latum.$

reptans.—Sparganum in subcutaneous tissue.

Echinococcus †322.—Intest. omissa.

Taenia + †325. macrocystis.

 $\begin{array}{ll} \textbf{Taenia} & \textbf{(Hydatigera)} & \texttt{1}325c. \\ \textbf{--Intest.} \\ \textbf{\dagger} crassicollis \text{ } \text{\tt s.} \end{array}$

† taeniaeformis.

Taenia (Taenia) †325b.—Intest.
† pisiformis.

Ancylostoma †387.—Intest.
*pluridentatum.—Washington Zoo.
tubaeforme j.—Brazil.

Capillaria †372b.

pachykeramota.
Chlamydonema 470I.

praeputiale.

Gnathostoma †473.

americanum.—Stomach.—Brazil.—T. h.

spinigerum.

Microfilaria †432.—Blood.

species Carini & Maciel, 1917.— Brazil.

Physaloptera †469, 470H. terdentata.—Stomach.—Brazil ¹.

Trichuris †370.—Intest. [felis.—Brazil.—T. h.]

Echinopardalis †501m.—Intest. [campanulatus s.—Brazil.] pardalis.—Brazil.

#413 Felis ¹ (#413a' Herpailurus, Oncoides ¹) tigrina guttula (Hensel, 1872, Beitr. Kenntniss Säugeth. Süd.-Bras., Berlin, 73 [not Felis ¹ guttata Hermann]) Lydekker, 1897c, Cat. Mamm., v. 1, 359. S. America. So. #413 Felis ¹ (Herpailurus) guttula, q. v.

#413 Felis ¹ [or Panthera] (#413d' Panthera, Felis ¹, Tigrina, Tigrinae, Uncia ¹) tigris Linn., 1758a, 41. Tiger, tigre royal, Königstiger, Tieger, Arimau Babr, Bághni, Botha-o, Bürsh, Garúmkúla, Go-vágh, Harimau, Humpi, Htso, Keh-va, Kei, Khi, Khudi, Kla, Krodi, Kúdua, Kula, Kuli, Kya, Lákhra, Matsá, Mazar, Misi, Náhar, Nári, Padar-suh, Patayat-bágh, Pedda-púli, Perain-púli, Peram-pilli, Pirri, Púli, Púli-redda-púli, Ragdi, Rimau, Sa, Sad, Sathong, Schi, Sela-vágh, Sher, Sherni, Shinh, Shink, Sirong, Sü, Sumyo, Tag, Tekhu, Tük, Túkt, Tupuli, Tut, Wahág. Asia ¹; from Caucasus through northern Persia, India, Assam, Burma, and Malay Peninsula to Malay Islands, China, Manchuria, Amurland, and Korea; absent from Ceylon.

COCCIDIOMORPHA †156.

[hartmanni: Genus not stated.—Lo-cality not given.—T. h.]

Eimeria †163.

novowenyoni.—Feces.—Leningrad Zoo^t.—T. h.

Paragonimus †250.—Lungs.

kellicotti i.—Malay States.

†pulmonale *.

tringeri.

†westermani.—Holland; India; Sumatra.—Syns.: westermanii, westermanni.—T. h.

Bothridium < †292.—Intest.

megacephalus c, for megalocephalum. pithonis.—India.

Diphyllobothrium †295.—Intest.

[decipiens o.—Calcutta Zoo.]

felis.—Calcutta Zoo.

†latum.

Mesocestoides < †299.—Intest. lineatus.—Calcutta Zoo.

Taenia + †325.—Intest.

species Southwell, 1922.—Calcutta Zoo.

Taenia (Hydatigera) †325c.—Intest.

serrata s.—Bengal.

Taenia (Taenia) †325b.

†pisiformis.—India.

Ancylostoma †387.—Intest.

†*brasiliense.

 \dagger *caninum.

†*ceylanicum.—Phila. Zoo.

†duodenale.—India.

perrodens.

pluridentatum.—Malay States.

tubaeforme 1.

Ascaris | †479.

species Weidman, 1916.—Phila. Zoo.

Chlamydonema †469d, 470I.

malayense.—Stomach.—Fed. Malay States.

praeputiale.

Cylicospirura 468f.

subacqualis.—S t o m a c h.—Malay States.

Dirofilaria 419A.

†immitis.—Heart.—Tonkin.

Galoneus < †385.

perniciosus.—Hamburg Zoo.—T. h.

Gnathostoma †473.

robustum ⁸.—Stomach.

†spinigerum.—Stomach, gastric wall, subcut.—T. h.

Spiroptera †458.

tigridis.—Esoph., stomach.—China.

Toxascaris †486.—Intest.

leonina.

[tigridis.]

Toxocara †484.—Intest.

leptoptera ⁸.—Berlin.

†mystax °.

Amblyomma †881.—Ext.

testudinarium.

Armillifer †796.

 $\dagger monili form is.$

Haemaphysalis †869.—Ext.

bispinosa.

hystricis.

kinneari.—India.—T. h.

†leachi • leachi.—India.

leachi australis.

papuana.—Sumatra.

spinigera.—India.

Hyalomma †880.—Ext.

hussaini brevipunctatum.—Bihar and Orissa, India.

· · ·

kumari.—Assam.

Ixodes †866.—Ext.

granulatus.—Burma.

Rhipicephalus †875.

hacmaphysaloides.—Assam.

Acanthopsylla < †1626.—Ext.

rothschildi.—Sydney Zoo, N. S. Wales.

Ctenocephalides †1639.—Ext.

†canis.

†fclis.—Sumatra.—Tiger [=? F. tigris sondiaca].

Trichodectes †1100.—Ext.

tigris.—T. h.

#413 Felis 1 (#413d' Panthera) tigris coreensis or koreensis.

Paragonimus †250.—Lungs.

†westermani.—Korea.—Syn. westermanii.

Diphyllobothrium †295.—Intest.

†mansoni.--Korea.

#413 Felis ¹ [or Panthera] (Panthera, Tigrina) tigris sondiaca (Fitzinger, 1868, Sitzungsber, Akad. Wiss., Wien, v. 58 (3-4), 454 [Tigris]) Grevé, 1894, Nova Acta Acad. Leop., Halle, 49, 53. Javan race; Inseltiger. Java ¹; Bali; Sumatra; Borneo.

Paragonimus †250.—Lungs.

†westermani.—Syn. westermanni.

Ancylostoma †387.—Intest.

perrodens.—Munich Zoo, from Sumatra.

Dirofilaria 449A.

†immitis.—Heart.

#413 *Felis ¹ [or Lynx ³] (#413n Lynx, Cervaria ʰ, Eucervaria ³) uinta (Merriam, 1902, Proc. Biol. Soc. Wash., v. 15, March 22, 71 [Lynx]) Elliot, 1905, Mamm. N. Amer. Continent, etc., Field Columbian Mus. Public. 105, Zool. ser., v. 6, 373. Bobcat, Uinta Mountains Lynx. Bridger Pass, south slope Uinta Mountains, Wyoming ¹.

Heterobilharzia < †280.

*americana.—Mesenteric veins.—Zoo, Washington, D. C.—Host; Taenia (Hydatigera) †325c.—Intest.

†tacniacformis.

Dermacentor †873.—Ext.

†*andersoni.

#413 Felis ¹ [or Leopardus ¹, Uncia ¹] (#413c' Uncia, Leopardus ¹) uncia Schreb., 1777, Säugthiere, v. 3, 386, pl. 100 (1776). Onza, Ounce, snow leopard, Unze, Bharal h'aye, Bharal-hē, Ikar, Sachak, Safed Chita, Sáh, Stean, Suth Chita, Thurwágh, Zig. Asia; Asia Minor.

Toxascaris †486.—Intest.

leonina.

#413 Felis viverra. ? Lapsus for #413 Felis viverrina.

#413 Felis ¹ [or Galeopardus ¹, Leopardus ¹, Serval ¹, Viverriceps, Zibethailurus ²] (#413t Zibethailurus, Pardina ¹, Servalina ¹, Servalina ¹) viverrina Bennett, 1833, Proc. Zool. Soc. London, 68. Asiatic wild cat, Fishing cat, Taraikatze, Tüpfelkatze, Bagh, Bágh-dásha, Banbiral, Báráun, Bardeen, Chittra Bilow, Hándún-diva, Khupya-bágh, Mach-bágral. Bengal; Burma; Ceylon; Formosa; India^t; Malabar coast; Malay Peninsula; South China; Tenasserim. Syn. viverinna ^m 1926.

Opisthorchis †267.—Liver. †viverrini.—T. h.

Dipylidium †308.—Intest. †eaninum.—Calcutta Zoo. gervaisi.—Calcutta Zoo.

Taenia (Hydatigera) †325c.—Intest. †crassicollis *.—Calcutta Zoo. †taeniacformis.—Calcutta Zoo.

Ancylostoma †387.—Intest.

 $\dagger caninum.$

†eeylanieum.—India.

†duodenale.

tubaeforme i.

Chlamydonema †469d, 470I. praeputiale.—London Zoo; India. Gnathostoma †473.

†spinigerum.

Toxascaris †486.—Intest.

*leonina.—Phila. Zoo.

Toxocara †484.—Intest. †mystax °.—India.

Amblyomma †881.—Ext.

integrum.

Armillifer †796.

moniliformis.—Larva.

Haemaphysalis †869.—Ext.

parva.—India.

Rhipicephalus †875.—Ext.

haemaphysaloides.—Bihar and Orissa Prov., India.

†sanguineus.—Ceylon; Burma, India.

#413 Fells [Leopardus] (#413z Leopardus, Margay ¹, Oncoides ³) wiedii Schinz, 1821, Cuvier's Thierreich, v. 1, 235. Small occlot, Spotted tiger, Wiedische Katze, Gato do Matto. Brazil ⁴. Syn. F. wiedi ⁶ Trouess., 1904, Cat. Mamm., Berolini, 271.

Diphyllobothrium †295. decipiens o. gracile.—Brazil. Taenia † †325.

macrocystis.

Taenia (Hydatigera) †325c.—Intest.

†taeniaeformis.

*#413 Felis | [or Catus |, Herpailurus, Leopardus |, Panthera |, Puma |] (#413a' Herpailurus, Cati |, Catopuma |, Unicolores |) yagouaroundi o Desmarest, 1820, Mamm., Paris, pt. 1, 230. So. #413 Felis | (Herpailurus) jaguarondi, q. v.

#414(412). ACINONYCHINAE ²² Pocock, 1917, Ann. Mag. Nat. Hist., 8th ser., v. 20(199), Nov., 332.—Total suppression of cutaneous lobes guarding claws. As in *Felinae* suspension of hyoid normally ossified, holding larynx close up to base of skull and restricting its movement. Contains #415 *Acinonyx* or *Cynailurus*. See #415.

#415. Acinonyx Burnett, 1830, Q. Journ. Sci. (R. Inst. Gt. Brit.) (for Dec., 1829), 349 (from Brookes, 1828, 33, not available); or Cynailurus 23 Wagler, 1830, Natür. Syst. Amphib., 30, mt. jubatus Linn., syn. guttata Schreb.—Hunting-leopard, Hundskatze, Gueparden, Jagdpanther. Claws smaller, less curved, without cutaneous lobes; not completely retractile (always remaining partly exposed). Inner tubercle of upper carnassial, though supported by a distinct root, without salient cusp; tubercular molar more in a line with the other teeth. Skull short and high, frontal region broad and elevated in consequence of large development of frontal air-sinuses. Head small and round; body light, slender; limbs and tail long. Colour pale yellowish-brown with small black spots. Africa, southwestern Asia as far as southern India.

#415 Cynailurus, [or Cynaelurus °, Cynofelis °, Gueparda °] (Cristatae °) guttatus ° (Hermann, 1804, Observ. Zool., 38 [Felis ¹]) Leunis, 1883a, Synop. Thierkunde, v. 1, 186. Guépard moucheté, Afrikanischer Gepard, Fahhad, schlanke Gepard. Africa. So. #415 Acinonyx jubatus, q. v.

#415 Acinonyx [or Cynailurus, Cynailura, Cynaelurus, Cynofelis, Felis, Guepar, Gueparda, Guepardus] (Cristatae) jubatus (Schreb., 1777, Säugethiere, v. 3, 392, pl. 105 (1776) [Felis]) Hollister, 1911, Proc. Biol. Soc. Wash., v. 24, 226. Cheeta, cheetah, chita, guepard, hunting-leopard, hunting-serval, guépard à crinière, asiatischer Gepard, Jagdleopard, Jagdtiger, Tschitah, Chircha, Chitra, Chitra-puli, Chita puli, Ihlose, Ihlosi, Ihlozi, Ingululi, Laggar, Leñau, Luipard, Ngulule, Nki, Nkwani, Shlozi, Sigakaka, Sivungi, sometimes Vlackte tijger, Yuz, Yuz-palang. Africa to S. W. Asia.

23 Syns.: Acinonyx d Brookes, 1828, Catal. Anat. & Zool. Mus. Joshua Brookes, 33, mt. venatar so. (1929) venatica Burnett, tsd. (1929) jubata;

Cristatae • Wagner, 1841, Schreber's Sängthiere, Snppl., v. 2, 501, contains jubata and guttata; Cynaelurus • • Gloger, 1842, Hand- u. Hilfsbuch Naturg., v. 1, 63, contains jubatus and guttatus; Cynailura Bogdanow in Grevé, 1894, Nova Acta Acad. Leop., Halle, v. 63, 94;

Cynafelis • Lesson, 1842, Nouv. Tabl. Règne anim., Mamm., 48, contains jubata and guttata; Gueparda • Gray, 1843, List Spec. Mamm. Brit. Mns., pp. xx, 46, mt. jubatus.

¹³ Mammalogists accept Brookes' (1828) names which we reject. On account of this difference of opinion we refrain from changing the subfamily name Acinonychinae (based upon a name which we reject) to one based on *Cynailurus*, until the case is decided by some committee or commission on nomenclature. If *Acinanyx* 1830 antodates *Cynailurus* 1830, the family name stands.

CESTODA †283.

[species Ratcliffe, 1930.]

Ancylostoma †387.—Intest.

†caninum.

trigonocephalas^d.

Capillaria †372b.

pachykeramota.—Intest.—Vienna.— T. h.

Cylicospirura 468f.

subaequalis.

Draeunculus †439.

aethiopicus ⁸.—Subeut.—Paris; Kordofan, Africa.

†medinensis.

Toxasearis †486.—Intest. leonina.

Toxocara †484.

†mystax •.—Africa.

Armillifer †796.

†armillatus.—Africa t.

Haemaphysalis †869.—Ext.

 $\dagger leachi.$

Psoroptes †938.—Ext.

communis s.—Ear.—Leipzig.

#416 (411). Head elongate. See #417.

#417 (410). Pm₂ present. See #418, also #465.

#418 (465). VIVERRIDAE e 1 Gray, 1821, London Med. Repos., v. 15, 301 [VIVE-RIDAE d].—Civet cats, genets, ichneumons or mongooses, paradoxures or tree-civets, etc. Toes generally 5 on each foot, claws variable; metatarsus hairy or naked. Teeth (typical formula): i.3/3, e.1/1, pm. 4/4, m.2/2. 5 or 6 teeth in molar series of each jaw; upper molars usually 2–2, and upper carnassial with no anterior lobe, usually with 3 outer eusps. Auditory bulla externally constricted, divided into 2 chambers (except nandinidae). Alisphenoid canal nearly always present. Dorsal vertebrae 13 or 14. Form usually rather slender; head and body clongate. Legs moderately short; digitigrade or plantigrade. In warmer portions of Old World (exclusive of Australia); north to Iberian Peninsula and southern France. See #419.

#419 (421). Nandinhidae Pocock, 1929, Encycl. Brit., 14th ed., v. 4, 898.—African palm civet. Auditory bulla undivided, wall of its posterior portion permanently eartilaginous; mastoid portion of skull large, shelflike in form; paroecipital directed backward away from bulla. Body and tail long; muzzle elongate and narrow; the full complement of facial vibrissae retained; ear with bursa and a ridgelike supratragus. Legs short, feet subplantigrade; elaws short, curved, partially retractile; digits evenly spaced; plantar pad four-lobed, on forefoot continuous with bilobed carpal pad and on the hind foot with metatarsal area which is naked and has two ridge-like pads. Palatine foramina of skull in front of suture; check-teeth moderately trenchant, pm 4/2, m 4/2. Abdominal scent glands in front of the genital organs; penis short and close to scrotum. Africa. See #420.

#420. Nandinia Gray, 1843, List Spec. Mamm. Brit. Mus., pp. xx, 54, mt. binotata Gray, 1830.—African spotted palm-civet, African tree civet. Rudimentary marsupial pouch present. Cusps of hinder premolars and molars smaller, much less sharp and pointed than in Genetta, Viverra, and Paradoxurus. With additional characters as given for Nandinidae. Forest region of W. Africa.

#420 Nandinia [Paradoxurus 1] binotata (Gray, 1830, Spieil. Zool., pt. 2, 9 [Viverra 1]) Gray, 1843, List Spec. Mamm., Brit. Mus., 54. Two-spotted palm eivet, West African Palm-Civet. Forest region of West Africa (Fernando Po, Ashanti 1, Angola). Syn. N. inotata m, for binotata.

Setaria †452.

species Walton, 1927.—In stomach tumor.

- **#421** (419). Auditory bulla divided by a partition into two chambers, wall of posterior portion of bulla completely ossified. See #422.
- #422 (442). VIVERRIDAE or Gray, 1821, London Med. Repos., v. 15, Apr. 1, 301 [VIVERIDAE d].—Civets, genets, and allies. Circumanal sac absent. Auditory bulla divided by a partition into two chambers, wall of posterior portion of bulla completely ossified, and the posterior surface applied to paroccipital process which projects downward; mastoid process relatively small. Seent-glands when present either entirely or partly perineal, never entirely abdominal in position. See #423.
- #423 (439). Scent-gland present in one or both sexes. See #424.
- #424 $(424a^{24})$. Bulla without bony tubular meatus. See #425.
- #425 (429). PARADOXURINAE Gill, 1872a, 4.—Oriental palm eivets. Plantigrade; claws retractile. Prepuce far in advance of scrotum, intervening area usually occupied by large simple seent-pouch; vulva surrounded by scent-gland. India to Philippines and Celebes. See #426.
- **#426** (428). Ears not tufted; tail long, not prehensile; tarsus half naked behind. See #427.
- #427 (427a²⁵). Paradoxurus Cuv., 1821, Hist. nat. Mamm., livr. 24, Jan., 5, tod. typus.—Asiatic palm-civets, paradoxures, toddy-cats, tree-cats, Roller, Rollmarder. Teeth large, 40:i. 3/3, e. 1/1, pm. 4/4, m. 2/2; blunt and rounded form of cusps of hinder pm. and m. teeth distinguishes this genus from most members of family. Anal and preanal (in or preserval) glands present; preanal glands discharge into a slight fold instead of into a deep pouch, secretion has little or no scent of civet; preanal tract naked. Spots the chief type of marking. Body long. Head elongate, conical, pointed in front; pupil vertical; orbit very incomplete; nose flat, central groove beneath; ears small, rounded. Tail long, nonprehensile, can be rolled. Legs moderate; palms and soles almost entirely naked, joining the footpads without the intervention of any hairy space; claws completely retractile, small, sharp. Nocturnal and arboreal. Southeast Asia; Indo-Malayan archipelago to Philippines.

Syns.:

Paguma s Gray, 1831, Proc. Zool. Soc. London, pt. 1 (8), Aug. 5, 95, mt. larvata Ham. Smith & Gray, China;

Platischista c Trouess., 1897c, Catal. Mamm., 329;

Platyschista Otto, 1835, Nova Acta Leop., Halle, v. 17 (2), 1102, tod. pallasii • Otto, renaming of hermaphrodita Pall. in Schreb., 1777.

Syn.: Arctogale b • Peters in Gray, 1864, Proc. Zool. Soc. London, 508, 542-543, mt. Paguma tririrgata Gray [not #513 Arctogale Kaup, 1829, MUSTELIDAE].

²⁴ #424a (424). GALIDICTINAL Mivart, 1882, Proc. Zool. Soc. London, Feb. 7, 143.—Madagasear mongooses. Bony tubular meatus of bulla present; jaws short; teeth sectorial. Scent-gland restricted to Q. Prepuce far in advance of scrotum. Anal pouch absent. Feet narrow with nonretractile claws. Contains Galidia, Galidicis (syn. Galictis b Geoffr., 1837) and Hemigalidia (syn. Salanoia).

²⁵ #427a (427). Arctogalidia Merriam, 1897, Sei., N. S., v. 5 (112). Feb. 19, 302, tod. Paradoxurus 1 trivingatus Gray, from Moluceas.—Small toothed palm-civets. Extremely small and slightly separated molars; upper carnassial almost triangular; cheek teeth often not in contact with one another. Naked preanal (preservatal in \mathcal{E}) tract absent; seent-gland absent in \mathcal{E} . Palate frequently convex longitudinally between carnassials, and greatly produced behind last molar; very narrow bony aperture of posterior nares; nose compressed, flat with central groove beneath. Soles of feet more naked than in Paradoxurus, pollex and hallux more divergent. Body longitudinally striped or with rows of spots; tail not ringed. Burma, Dutch E. Indies (Java, Sumatra), Malay Archipelago.

#427 Paradoxurus [or Genetta 1, Paguma 8] bondar (Blainv. in Desm., 1820, Encycl. méth., Mamm., (1), 210 [Viverra]) Gray, 1832, Proc. Zool. Soc. London, (17), July, 66. Musk weasel, Musky weasel. So. Paradoxurus niger, fide Blanford, 1885, 792 and 1888, 106; so. Paradoxurus hermaphroditus, fide Lydekker, 1896a, 233; so. Paradoxurus hermaphrodyta niger, fide Trouess., 1897c, 329.

#427 Paradoxurus [or Paguma *] grayi Bennett, 1835, Proc. Zool. Soc. London, pt. 3 (32), Oct., 118. Himalayan palm civet, ungefleckte Roller. India t;

Himalayas; Arakan and Andaman Ids.

Paragonimus †250.—Lung. edwardsi.—Kumaon Hills t, India.— T. h.

Diphyllobothrium †295.

species Southwell, 1922.—Calcutta.

Dipylidium †308.—Intest. †caninum.—Calcutta Zoo.

Taenia $^{1} < ^{\dagger}299$.

paradoxuri.—Dejecta.—Philadelphia Zoo, from India t.—T. h.

#427 Paradoxurus [or Genetta 1] hermaphroditus (Pallas in Schreb., 1777, Säugthiere, v. 3, 426 [Viverra 1]) Gray, 1832, Proc. Zool. Soc. London, pt. 2 (17), 67. Common palm-civet, Malayan palm civet, Palmenroller, Zwitterstinkthier, Bághdánkh, Bhondar, Khabbo-palaing, Kyoung-na-ga, Kyoungwon-baik, Músang, Músang Pándan, Sapo-mi-aing. Barbary t; Dutch E. Indies; India; Indo-China; Malacca; Malay Peninsula; Siam. Syns.: hermaphroditicus ^m 1922; hermaphrodyta ° Trouess., 1897c, Cat. Mamm., Berolini, v. 1, 329.

Cyclorchida < †306I.—Intest. crassivesicula.—Malay States t.— T. h.

Dipylidium †308.—Intest. †caninum.—Calcutta.

gervaisi: Dipylidium; Joyeuxia.— Calcutta Zoo.

Proteocephalus $\leq †283$. punicus.—Calcutta Zoo. Gnathostoma †473.

†spinigerum.—Malay.

Rictularia 459R.

plagiostoma.—Malay.

Echinolaelaps \leq †898.—Ext.

echidninus.—Buitenzorg, Java.

Ctenocephalides †1639.-Ext.

tfclis.—Karlsruhe zoo, Germany.

#427 Paradoxurus hermaphroditus bondar. Cf. #427 Paradoxurus bondar. Rictularia 459R.—Intest.

species Baylis & Daubney, 1922.—Intest.—Calcutta.

#427 Paradoxurus [Paguma *, Viverra 1] (Paguma, Paradoxurus, Viverra 1) larvatus (Temm. in Griff.'s Cuv., 1827, Anim. Kingd., v. 2, 281, fig. 1 [Gulo¹]) Gray, 1832, Proc. Zool. Soc. London, pt. 2 (17), 67. Chinese palm civet, gem-faced civet, masked genet, masked glutton, Larvenroller. China, Formosa.

Paragonimus †250.—Lung.

†westermani.—China; Monaco.—Syn. westermanni.

Rictularia 459R.

plagiostoma.—London Zoo.

Haemaphysalis †869.—Ext.

birmaniac.—Burma, Asia.

bispinosa.—China; Japan.

#427 Paradoxnrus niger (Desm., 1820, Mamm., Paris, pt. 1, 208-209 [Viverra 1]) Blanford, 1885, Proc. Zool. Soc. London, no. 51, Nov. 3, 792. Palm civet, Palmroller, toddy cat (of Europeans in many parts), Bhám, Bhondar, Chingár, Jhár-ka-Kutta, Kera-bek, Khatás, Lakáti, Machabba, Malwa, Manu-pilli, Marrapilli, Maru-pilli, Menuri, Togot, Ud, Ugudora, Veruvú. India, Ceylon, extending to Himalayas. Var. of #427 hermaphroditus, fide Trouess., 1897c, 329; so. #427 hermaphroditus, fide Lydekker, 1896a, 233, 234; distinct species, fide Blanford, 1888, 106; Pocock, 1915, 403. Cf. Cabrera, 1917, Bol. Soc. esp. Hist. nat., Madrid, v. 17 (8), 487.

Haemaphysalis †869.—Ext. cuspidata.—Ceylon.

#427 Paradoxurus philippinensis Jourdan, 1837, C. r. Acad. Sci., Paris, v. 5 (15), 523-524. Philippine palm-civet. Borneo; Palawan, Philippines t. Syn. P. [or Martes] philippensis Jourdan, 1837, Ann. Sci. Nat., Paris, scr. 2, v. 8, Zool., Dec., 372.

Sparganum †293.

philippinensis.—Peritoneum.—Los Baños ^t, Philippine Ids.—T. h.

Gnathostoma †473.

radula *.—Philippines.

†spinigerum.—Gastric wall.—Philippines.

Armillifer †796.

moniliformis heymonsi.—Abdomen.—Los Baños.

#427 Paradoxurus species.

Trichinella †366.—Muscles, intest.

†*spiralis.—Phila. Zoo.

Haemaphysalis †869.—Ext.

cuspidata.—Colombo, Ceylon. dentipalpis.—Malay ^t.—T. h.

†leachi e leachi.

leporis.

vidua.—Malay t.—T. h.

#427 Paradoxurus tytlerii • Tytler, 1864, J. Asiatic Soc. Bengal, v. 33, June 20, 188. Andaman Ids. (Viper Id.^t). So. grayi, fide Lydekker, 1896a, 237; Blanford, 1888, 112; syn. tylleri ^m.

Ctenocephalides †1639.—Ext.

†felis.—Berlin zoo.

#428 (426). Arctictis ²⁶ Temminck, 1824, Prospectus Monogr. Mamm., Paris, Mar., v. 1, p. xxi [nv], mt. binturong Raffles, Sumatra.—Binturong. Ears tufted, short; tail long, truly prehensile; tarsus naked behind. Head eonical; nose acute, underside flat, with broad central groove; eyes small, pupil vertical. Teeth: i. 3/3, c. 1/1, pm. 4/3, m. 2/2; sometimes 4 lower premolars, and last upper molar often absent; canine teeth large, compressed, very sharp behind, concave externally in front of posterior edge; molars small, rounded; both molars and incisors slightly separate from each other. Whiskers numerous, long, rigid, more slender on checks, throat, and eyebrows. Fur coarse, long, shaggy. Feet thoroughly plantigrade; toes 5 on each foot; claws compressed, short, slightly curved, acute, partially retractile; soles of hind feet broad, entirely bald and callous to heel. Large prescrotal glands opening into a deep fold. Southern Asia from Nepal through Malay Peninsula to Sumatra and Java.

#428 Arctictis [or Arctitis m] binturong (Raffles, 1821, Trans. Linn. Soc. London, v. 13 (1), 253-254 [Viverra l]) Fischer, 1829, Synop. Mamm., 157. Bear-eat, binturong, Myouk-kyá (monkey-tiger), Untarong, Unturong,

²⁶ Syns.: Arctitis m Grevé, 1894, Nova Acta Acad. Leop., Halle, 217;

Ictides e Valenciennes, 1825, Ann. Sci. nat., Paris, v. 4, Jan., 57-61, pl. 1, figs. 1-4, mt. tod. Paradoxurus i albifrons;

Ictis Schinz, 1824, Naturg. Abbild. Säugethier, v. 1, 110, mt. albifrons Cuv. [not #513 Ictis b. Kaup, 1829, Mustelidae.]

Young. Malacca ¹; Himalayas from Simla to Assam, Burma, Siam, Malay Peninsula, Sumatra, Java, Borneo.

Rictularia 459R.

mjöbergi.—Intest., mesentery, abd. cavity.—Mt. Penrissen t, Sarawak.—T. h.

#428 Arctictis species.

Ctenocephalides †1639.—Ext. †felis.

#429 (425). Digitigrade (subplantigrade in Euplerinae).

#430 (430a²⁷). Not semiaquatie in habits; premolars not adapted for holding fish and erushing shells of erabs and mussels. See #431.

#431 (431a²⁸). VIVERRINAE Gill, 1872a, 4.—Civets, Genets. Scent-glands elaborately developed. Teeth trenchant, usually 40: i. 3/3, e. 1/1, pm. 4/4, m. 1 or 2/2 (in *Poiana* 2d upper molar absent). Digitigrade; claws usually retractile. Syn. VIVERINAE d Swainson, 1835, Nat. Hist. Class. Quad., pp. vii, 361. See #432.

#432 (432a²⁹). Teeth 40: i. 3/3, e. 1/1, pm. 4/4, m. 2/2. See #433.

#433 (434). Genetta Oken, 1816, Lehrb. Naturg., Zool., 3 Th., 2 Abth., pp. xi, 1010, tat. genetta Linn.; tsd. (1900) vulgaris so. genetta; Cuv., 1817, Règne anim., Paris, v. 1, 156, tat. genetta.—Genets. General form cat-like. Interglandular space in o' o' and some ? ? divided into 3 compartments by 2 transverse ridges of integument, in other ? ? forming a small, shallow pouch; metatarsus with long narrow double pad. Slenderer animals with shorter legs; feet hairy; soles with long narrow naked line. Skull clongate, narrow; auditory bulla large, clongate, rounded at both ends; pupil contracting to a linear aperture; ear higher than wide. Teeth compressed, sharp pointed; inner side of the third upper premolar has a tubercle. Tail long, slender, ringed. Fur short, soft, spotted or cloudy. Pouch for storing secretion of scent-gland absent. Africa; Mediterranean region of Europe; Palestine. Syn. Odmaelurus o Gloger, 1841, Hand- u. Hilfsbuch Naturg., v. 1, 72, mt. genetta Linn.

#433 Genetta abyssinica (Rüppell, 1835, Neue Wirbelthiere Abyssin., Frankfurt a. M., 33, pl. 2 [Viverra 1]) Lydekker, 1896a, Handbook to the Carnivora,

#430b. Cynogale Gray, 1837, Proc. Zool. Soc. London, pt. 4 (46), Feb., 88, mt. tod. bennetti Gray, 1837.—Otter-civet, Mampalon. With the characters of subfamily. Malay States to Borneo.

²⁸ #431a (431). HEMIGALINAE Gill, 1872a, 4.—Scent-pouch reduced in size in both sexes. Teeth sharper cusped than in Paradoxurinae, and feet more digitigrado. Oriental. Contains Chrotoyale, Diplogale, and Hemigalus.

29 #432a (432). **Poiana** Gray, 1864, Proc. Zool. Soc. London, 507, 520, mt. richardsoni Gerrard so. (tsd. 1904) poensis Waterhouse, from Fernando Po, fide Palmer, but synonymy not accepted by Cabrera, see also Pocock, 1907, Proc. Zool. Soc. Lond., v. 2, 1039.—Teeth 38: i. 3/3, c. 1/1, pm. 4/4, m. 1/2; 2d upper molar absent. Sole of foot with narrow bald band running up toward tarsus. Africa.

Poiana was placed provisionally in LINSANGINAE by Pocock (1915, Ann. Mag. Nat. Hist., 8th ser., v. 16, 350) on basis of absence of scent-glands. Since 1915, this genns has been found to have elaborate scent-glands and consequently Pocock (1929, Encycl. brit., 14th ed., v. 4, 898) places it in VIVERRINAE.

^{27 #430}a (430). CYNOGALINAE Gill, 1872a, 4.—Fish-eater adapted for scmiaquatic habits; teeth modified for holding fish and crushing shells of crabs and mussels; premolars poculiarly clongated, compressed, pointed, recurved, somewhat as in seals, but molars are tuberculated. Head elongated, muzzle broad, depressed. Vibrissae numerous, rigid; rhinarinm on summit of very wide muzzle. Ears small, rounded. Soles of feet naked; toes short, slightly webbed at base; claws partially retractile. Scont-gland reduced. Tail short, cylindrical, covered with short hair. Fur very denso, soft, dark brown, mixed with black and gray. See #430b.

pt. 1, 219; Matschie, 1902, Verh. Internat. Zool.-Congresses, Berlin, 1140. Die streifige Zibethkatze, Sennar-Genette. Abyssinia ^t.

Dipylidium †308.—Intest.

gervaisi.—Eritrea.

Hymenolepis †314.

liguloides.

#433 Genetta afra Cuv. in Geoffr. & Cuv., 1825, Hist. nat. Mamm., v. 3 (51), Sept., 2. Mauren-Genette, Shib-beardon. Morocco; S. Spain.

Dipylidium †308.—Intest.

monoophorum.—Tunis, N. Africa.

triseriale.—Tunis, N. Africa.

#433 Genetta afra h of Trouess., 1910, Faune Mamm. Europe, 88, 89. So. #433 Genetta genetta genetta, fide Miller, 1912, Cat. Mamm. W. Europe, 451.

#433 Genetta afra bonapartei o (Loche, 1857, Rev. Mag. Zool., ser. 2, v. 9, 385, pl. 13). So. #433 Genetta bonapartei, q. v.

#433 Genetta bonapartei ^e Loehe, 1857, Rev. Mag. Zool., ser. 2, v. 9, 385, pl. 13. Streifen-Genette. La Bouzaréa, Algeria ^t.

Habronema †470.

nouveli.—Stomach, intest.—Algeria.—T. h.

Protospirura 470B.

numidica.—Sétif, Algeria.

Spirocerea 468G.

sanguinolenta.

#433 Genetta dongolana (Hempr. & Ehrenb., 1832, Symb. Phys., dec. 2 [Viverra ¹]) Anderson & Winton, 1902, Zool. Egypt, Mamm., London, 188, pl. 26; Matschie, 1902, Vth Intern. Congr. Zool. Berlin, 1140. Dongolan Genet, Nubische Genette. Dongola, Kassala, Nubia ^t, Suakim.

Dipylidium †308.—Intest.

dongolense.—London Zoo, from Africa.—T. h.

[genettae Beddard, 1913.—London Zoo, from Africa.—T. h.]

Xenopsylla †1636.—Ext.

†cheopis.—Egyptian Sudan. nubicus.—Shendi ^t, Africa.

#433 Genetta felina (Thunberg, 1811, Kongl. Vet. Acad. Handl., v. 32 (3), 165, 1 fig., tab. 7 [Viverra ']) Lesson, 1842, N. Tab. Règne Anim., Nov., 59. Feline Genet, small-spotted Genet, Insimba, Inywagi, Misselyat-kat, Musk-kat, Tshipa. Africa ', Cape Province north to Angola.

Haemaphysalis †869.—Ext.

†leachi.—S. Africa.

#433 Genetta (Genetta) genetta (Linn., 1758a, 45 [Viverra l]) Cuv., 1817, Règne anim., v. 1, 157. Genette, Ginsterkatze. Spain l; Africa, Mediterranean region of Europe.

Dipylidium †308.—Intest.

genettae Gervais, 1847a.—Montpel-

lier ^t, France.—T. h.

gervaisi.

monoophorum.—N. Africa.—Host probably Genetta afra Cuv.

triseriale.—N. Africa.—Host probably Genetta afra Cuv.

Mesocestoides < †299.—Intest.

ambiguus.—T. h.

Taenia r †325.—Intest.

platydera.—Montpellier ^t, France.— T. h. Taenia (Hydatigera) †325e.

†erassicollis s.—London Zoo, from Spain.

†taeniaeformis.—London Zoo, from Spain.

Ancylostoma †387.—Intest. †caninum.

Toxocara †484.—Intest.

braehyoptera *.—Vienna Museum from Algeeiras, Spain.—T. h. †mystax °.

Uncinaria 390 B.—Intest. crassa.—Senegal.

Armillifer †796. †armillatus.

Haemaphysalis †869.—Ext. gestroi i s.—Burma.

†leachi • leachi.—S. Africa.

Ixodes †866.—Ext. pilosus howardi. †rieinus.

Rhipicephalus †875.—Ext. †sanguineus.

Trichodectes †1100.—Ext. acuticeps.—Abyssinia ^t.

- #433 Genetta genetta genetta (Linn., 1758a, 45 [Viverra 1]) Miller, 1912, Cat. Mamm. W. Europe, 451. Spain t; central and southern Spain; limits of range unknown.
- #433 Genetta genetta rhedanica (Matschie, 1902, Vth Internat. Zool.-Congr. Berlin, 1139) Miller, 1912, Cat. Mamm. W. Europe, 452. Rhone-Genette. Montpellier ^t, Herault, France; southwestern France from valleys of Rhone and Loire to Bay of Biscay; perhaps westward through Asturias.

Eutrichophilus <\pi 1099.—Ext.
genettae.—Vigo t, Spain.—T. h.

#433 Genetta ludia Thomas & Schwann, 1906, Proc. Zcol. Soc. London, no. 39, 579–581. The Senegal genet. Western Africa south to Kalahari (Klein Letaba ^t, Transvaal).

Taenia † †325.—Intest.

parva.—Pretoria, S. Africa †.—T. h.

Ancylostoma †387.—Intest.

†caninum.—S. Africa.

Chlamydonema 470I.
felineum.
Trichodectes †1100.—Ext.
genetta.—Jericho t, Transvaal.—T. h.

#433 Genetta [or Viverra | pardina Geoffr., 1832, Mag. Zool., v. 2, pl. 8. Pardine genet, Panther-Genette. West Africa (North Cameroon, Senegal t, Togo).

Dirofilaria †447.

genettae.—Connective tissue?—Okoya ^t, Nigeria.—T. h.

Amblyomma †881.—Ext.

marmoreum.

Armillifer †796.

†armillatus.—Larva.—Senegal.

- #433 Genetta rhodanica Matschie, 1902, Vth Internat. Zool.-Congr. Berlin, 1139. So. #433 Genetta genetta rhodanica, q. v.
- #433 Genetta senegalensis (Fischer, 1829, Synop. Mamm., 170 [Viverra 1]) Gray, 1832, Proc. Zool. Soc. London, pt. 2 (17), 63. The Senegal genet. Africa (Senegal 1).

Microstrongylus < †411.

genettae.—London Zoo.—T. h.

Uncinaria † 390B.—Intest. crassa.—Intest.

Armillifer †796.

†armillatus.—Larva.

Haemaphysalis †869.—Ext.

†leachi.—Africa.

Synosternus < †1634.—Ext.

easter.—Cape Town, S. Africa.

#433 Genetta species.

Dipylidium †308.—Intest. genettae Gorvais, 1847a.

Mesocestoides < †299.—Intest. ambiguus.

Taenia * †325.—Intest.
platydera.

Ancylostoma †387.—Intest. †brasiliense.—"Genet". †duodenale.

Habronema †470. nouveli.

Rictularia 459R.

macdonaldi.—Intest.—Algeria.

Amblyomma †881.—Ext.

marmoreum.

Armillifer †796.—Encysted. †armillatus.—Senegal.

Haemaphysalis †869.—Ext. †leachi.—Transvaal.

Ixodes †866.—Ext.

†reduvius .

Trichodectes †1100.—Ext. acuticeps.—Abyssinia *.—T. h.

#433 Genetta stuhlmanni Matschie, 1895, Säugethiere Deutsch-Ost. Afr., 73-75, 146 [nv]; 1902, Vth Internat. Zool.-Congr. Berlin, 1142. Bukoba-Genette. Bukoba, Mengo in Uganda.

Ascaris †479.

species Spaul, 1923.—Tanganyika.

LINGUATULIDAE †792.

species Bequaert.—Belgian Congo.

Ctenocephalides †1639.—Ext.

conversus.—Brit. E. Africa. eraterus.—Brit. E. Africa.

#433 Genetta suahelica Matschie, 1902, Vth Internat. Zool.-Congr. Berlin, 1143. Suaheli-Genette. German E. Africa as far as Mombasa and Nguruman.

Haemaphysalis †869.—Ext.

†leachi e leachi.—German E. Africa.

Ixodes †866.—Ext.

ugandanus djaronensis.—Kilimanjaro t, Tanganyika.—T. h.

Rhipicephalus †875.

†simus.

Ctenocephalides †1639.—Ext. †canis.—Kibonoto, Africa.

#433 Genetta tigrina (Schreb., 1777, Säugthiere, v. 3, 425, pl. 115 (1776) [Viverra]) Gray, 1843, List Spec. Mamm., Brit. Mus., 49. Blotched genet, large-spotted genet, Bisamkatze, Grossfleekige Kap-Genette, Insimba, Inywagi, Misselyat-kat, Musk-kat, Tshipa. South Africa, northward on the east coast through Natal and Mozambique to Abyssinia.

Dipylidium †308.—Intest. gervaisi.—Eritrea.

#433 Genetta tigrina pardina (Geoffr., 1832, Mag. Zool., v. 2, pl. 8). So. #428 Genetta pardina, q. v.

#433 Genetta vulgaris • Lesson, 1827, Man. Mamm., 173, renaming of genetta Linn. So. #433 Genetta genetta, q. v.

#434 (433). Interglandular space not divided by transverse ridges into 3 compartments, and in ♀♀always forming a deep, capacious pouch; metatarsal pad absent or very short. See #435.

#435 (436). Civettictis Pocock, 1915, Proc. Zool. Soc. London, v. 1, March 26, 134, mt. civetta Schreb.—African civet. Each half of the gland excavate to form a pouch communicating with the interglandular space by a constricted orifice. A small metatarsal pad above plantar pad; carpal pad markedly

bilobed; sole of foot in front and at the sides of plantar pad quite naked;

Ancylostoma †387.—Intest.

Amblyomma †881.—Ext.

Haemaphysalis †869.—Ext.

†leachi • leachi.—Liberia.

Ctenocephalides †1639.—Ext.

†canis.—Belgian Congo.

†ceylanicum.

 $\dagger duodenale.$

†hebraeum.

claws longer, unsheathed, less retractile. Africa.

#435 Civettictis (Viverra 1) civetta (Schreb., 1777, Säugthiere, v. 3, 418, pl. 111 (1776) [Viverra 1]) Pocock, 1915, Proc. Zool. Soc. London, v. 1, March 26, 134. African civet, civet-cat, afrikanische Zibethkatze, civet kat, Civette, Lisisi, Mpicamadhloti (i. e., "that which puzzles spirits", so-called because of its shy and sceretive habits). Africa, south to Mashonaland and eastern Transvaal.

Babesia †173.—Blood.

civcttae.—Senegal ^t.—T. h.

Isospora †161.

viverrae.—Epithelium of small intest.—S. Africa ^t.—T. h.

Dipylidium †308.—Intest.

monoophorum.—Tunis ^t, N. Africa.— T. h.

triseriale.—Tunis t, N. Africa.—T. h.

#435 [Civettictis] (Viverra ') civetta orientalis (Matschie, 1892, Sitz.-Ber. Gesellsch. Naturf. Fr., Berlin, 140, 229 [Viverra ']). East Africa.

Haemaphysalis †869.—Ext.

†leachi.—Tanganyika.

Rhipicephalus †875.

 $\dagger simus.$

#436 (435). Halves of the gland not excavate to form a pouch as in Civettictis; metatarsal pad absent; earpal pad not so markedly bilobed; sole of foot partially or wholly hairy; claws shorter, more retractile. See #437.

#437 (438). Viverra Linn., 1758a, 43, tsd. (1900; 1904; 1911) zibetha Linn.— Oriental civets, Zibethkatze. Pollex and hallux (as in Genetta and Civettictis) low down, their digital pads approximately on a level with the posterolateral angle of the plantar pad; claws of 3d and 4th digits of fore foot guarded by large skin-lobes (at least in Viverra zibetha). Fur rather long and loose, and in mid line of neck and back elongated to form an creetile black dorsal crest or mane. Teeth 40: i. 3/3, c. 1/1, pm. 4/4, m. 2/2; teeth stouter and less compressed than in the other genera; 2d upper molar especially larger. Orbit of skull incomplete; auditory bulla smaller and more pointed in front. Body shorter and stouter; legs longer; tail shorter, tapering, ringed, not prehensile. Claws strongly curved, rather short, blunt, only partially retractile; soles completely clothed with hair. Neck with a black gorget. Pupil oblong, vertical, circular when contracted. Scentglands present (preserved in \mathcal{O} , and in corresponding position in \mathcal{O}); the secretion, known as civet, escapes by a number of minute orifices into a large sae, the external opening of which appears as a longitudinal slit, resembling a large vaginal aperture. The 2 anal glands which surround the anus secrete an offensive odor. Tropical Asia.

#437 Viverra ¹ abyssinica Rüppell, 1835, 33. Syn. Viverra ¹ abissinica ^m 1894.

So. #428 Genetta abyssinica, q. v.

#437 Viverra 1 bondar Blainv. in Desm., 1820, Encycl. méth., Mamm. (1), 210. So. #427 Paradoxurus bondar, q. v.

#437 Viverra ¹ capensis Schreb., 1777, Säugth., v. 3, 450, pl. 125 (1776); Erxl., 1777, Syst. Anim., 493. So. #538 Mellivora capensis, q. v.

#437 Viverra ¹ caudivolvula Pallas in Schreb., 1777, Säugth., v. 3, 453, pl. 125B (1776). So. #568 Potos ¹ caudivolvula, q. v.

#437 Viverra ¹ cinche Müller in Linn., 1776, Syst. Nat., Snppl., 32. Syns.: chinche ^e 1777; chinga ^e 1782; chingha ^e 1876. So. #552 **Mephitis** cinche, q. v.

#437 Viverra ¹ civetta Schreber, 1777, Säugthiere, v. 3, 418, pl. 111 (1776).

So. #435 Civettictis civetta, q. v.

#437 Viverra ¹ foetens ^o Thunberg, 1791, D. D. Mus. Ac. Upsal. App. I, iii, renaming of putorius, fide Miller, 1912a, 423; 1798, Beskrifning på Svenske Djur, 15. So. #511 Mustela ¹ (Putorius) putorius putorius.

#437 Viverra 1 genetta Linn., 1758a, 45. So. #433 Genetta genetta, q. v.

#437 Viverra ¹ Ichneumon Linn., 1758a, 43. So. #464 Herpestes Ichneumon, q. v.

#437 Viverra ¹ indica Desm., 1804, Nouv. Diet. Hist. nat., ed. 1, 17, tab. 24 [nv]. So. #438 **Viverricula** indica, q. v.

#437 Viverra ¹ malaccensis Gmel. in Linn., 1788, Syst. Nat., v. 1, 92. So. #438 Viverricula malaccensis, q. v.

#437 Viverra ¹ mungo Gmel. in Linn., 1788, Syst. Nat., v. 1, ed. 13, 84. So. #455 Mungos mungo, q. v.

#437 Viverra ¹ narica Linn., 1766, 64. So. #563 Nasua narica, q. v.

#437 Viverra ¹ senegalensis Fischer, 1829, Synop. Mamm., 170. So. #433 Genetta senegalensis, q. v.

#437 Viverra species.

Opisthorchis †267.

†viverrini.

CESTODA †283.

[species Ratcliffe, 1930.—"Moon civet."]

Diphyllobothrium †295.

tangalongi.—Stomach, intest.—Borneo.—"Tangalong, Civet Cat," see #437 Viverra tangalunga.

Taenia $1 \le †299$.—Intest.

species Parona, 1900a.—Eritrea.

Taenia r †325.—Intest.

species Setti, 1897a.—Massaua, Eritrea.

Ancylostoma †387.—Intest.

†brasiliense.

Uncinaria 1 390B.—Intest.

crassa.—Senegal.—T. h.

Haemaphysalis †869.—Ext.

†leachi · leachi.

spinigera.—Amboina.

Ixodes †S66.—Ext.

†pilosus.—Orange Free State, Cape Province, Transvaal, S. Africa.

Lorryia < †953.—Ext.

superba.—Amboina t.—T. h.

#437 Viverra (Viverra) tangalunga (Gray, 1832, Proc. Zool. Soc. London, pt. 2 (17), 63) Troucss., 1897c, Cat. Mamm., Berolini, v. 1, 324. Javan civet, spotted civet. Amboina, Dutch East Indies (Celebes, Java, Sumatra), Malay Peninsula (Borneo), Philippine Ids. Syn. tungalunga ^m Troucss., 1904c, Cat. Mamm., Berolini, 248.

Giardia †139.—Duodenum.

hegneri.—Philippine Ids. —T. h.

Diphyllobothrium †295.

tangalongi.—Stomach, intest.—Borneo t.—T. h.

#437 Viverra (Viverra) zibetha (Linn., 1758a, 44) Trouess., 1904c, Cat. Mamm., Berolini, 248. Indian civet, large Indian civet, asiatische Zibethkatze, echte Zibethkatze, edle Zibethkatze, Bágdos, Bhrán, Khatás, Kung, Kyoungmyeng (horse-cat), Mach-bhondar, Nit biralu, Puda-ganla, Saphiong, Tangalong, Tanggallong. China, Eastern Himalayas, India (Assam, Bengal, Burma), Malay Peninsula and adjoining islands, Siam.

Eurytrema †276K.

concinnum.—Gall bladder.—Königsberg Zoo.—T. h.

Diphyllobothrium †295.

[†mansoni: Sparganum.—Tonkin, Indochina.]

Dipylidium †308.—Intest. triscriale.—India.

Strongylus 1 †378a.

brauni.—Lungs.—Königsberg Zoo.

Haemaphysalis †869.—Ext.

gestroi.—Burma t.

†leachi • lcachi.—Burma.

#438 (437). Viverricula Hodgson, 1838, Ann. Mag. Nat. Hist., v. 1 (2), Apr., 152,? tsd. (date?) malaccensis syn. indica.—Oriental civets. Pollex and hallux higher up, above postero-lateral angle of plantar pad; claws of 3d and 4th digits of fore foot unguarded by lobes of skin. No erectile mane along back. Teeth 40: i. 3/3, c. 1/1, pm. 4/4, m. 2/2; teeth small, compressed and sharp. Orbit of skull complete; alisphenoid canal generally absent, although rarely present; anterior chamber of auditory bulla much more inflated than hinder chamber, so that the apparent length of the whole bulla is increased. Animal smaller than Viverra; build slighter, muzzle finer, claws sharper and more curved, and entire animal more adapted for arboreal habits and climbing. Head tapering; throat with lunate dark bands. Tail almost as long as body, conical, tapering, dark ringed. Pupil oblong, vertical. Heel with a small bald spot. Anal and scent glands present as in Viverra. Tropical Asia (India; Malay; Nepal t; South China).

#438 Viverricula [or Civetta, Genetta, Viverra, indica, ("Geoffr.") Desm., 1804, Nouv. Dict. Hist. nat., 17, tab. 24 [Viverra, indica, 1838, Ann. Mag. Nat. Hist., London, v. 1 (2), Apr., 152. Burma, China, India, Java. So. #427 Viverricula malaccensis.

Armillifer †796.

† moniliformis.—Gall bladder.—Djambi. Ctenocephalides †1639.

†felis.

#438 Viverricula (Viverricula) malaccensis (Gmel. in Linn., 1788, Syst. Nat., v. 1, 92 [Viverra ¹]) Cantor, 1846, J. Asiatic Soc. Bengal, v. 15, 199. Lesser Indian Civet, little spotted civet, small Indian Civet, Rasse, Bagh-niyal, Bag-myúl, Chita Billa, Gandha gokal, Gando gaula, Jabadio, Jowádi-mánjur, Jubat, Kasturi, Katás, Koung-ka-do, Mashk-billa, Múshak-bílli, Mushk Billa, Puluk-Phílli, Púnagin bek, Punagina-Bekku, Púnagú pilli, Punkassibekk, Saiyar, Sogot, Uralawa, Wa-young-kyoung-byouk. Ceylon, China, Cochin-China, Comoro Ids., Formosa, India, Java, Madagascar, Malacca ¹, Malay countries, Nepal, Philippine Ids., Singapore, Socotra, Sumatra, Tenasserim Provinces.

Taenia (Hydatigera) †325c.—Intest. †taeniaeformis.—London Zoo, from India.

Ancylostoma †387.—Intest.

†caninum.

†ceulanicum⁸.—Ceylon ^t.—T. h.

Rictularia 459R.

cahirensis.

Armillifer †796.

†moniliformis.

Amblyomma †881.—Ext.

integrum.—Orissa Prov.

Haemaphysalis †869.—Ext.

bispinosa.—Assam; Bengal; China; India; Japan.

parva.—India.—Host i.

#438 Viverricula rasse (Horsfield, 1823, Zool. Researches Java, (6) [Viverra ¹])
Horsfield, 1841, J. Asiatic Soc. Bengal, n.s., no. 35, v. 10 (119), 909. Java ¹;
Ceylon; Comoros Id.; Madagascar; Socotra.

Felicola <\pi1099.—Ext.

viverriculac.—E. Madagascar.—T. li.

#439 (423). Scent-glands absent in both ♂ and ♀, vulva tolerably close to anus; feet digitigrade or subplantigrade, and hairy down to plantar pads, metatarsal pads reduced or absent and carpal pads or pad much smaller and narrower than plantar pad. See #440.

#440 (440a 30). EUPLERINAE Mivart, 1882, Proc. Zool. Soc. London, Feb. 7, 143.—Subplantigrade and fossorial. Hallux and pollex with large digital pads and close to 2d digit. Jaws feeble, long, slender; teeth degenerate, reduced in size, canines exceedingly small and premolars widely spaced. Alisphenoid canal absent; supracondyloid foramen present; bulla hardly everted pos-

teriorly. Madagascar. See #441.

#441. Eupleres Doyère, 1835, Bul. Soc. Sei. nat., France, no. 3, March, 45; no. 5, June, 103, mt. tod. goudotii; Ann. Sei. nat., Paris, 2d ser., v. 4, Nov., 280, mt. tod. goudotii, Madagascar.—Small-toothed mongooses. Toes 5 on each foot. Claws short, hooked. Hind soles hairy. Skull ventricose, very much produced, slender, compressed; lower jaw compressed and produced in front; eyes large; ears large, triangular; nose and upper lip medianly grooved. Body vermiform. Tarsi elongate, hairy beneath; a very slender bald streak to the heel as in Genetta but not so distinct; toes "apparently" united, with scattered hairs above, thumb very short; great toe short and high up; claws acute, "semiretractile." Incisors 6/6; canines (scarcely distinguishable from first 3 premolars) small, compressed; premolars 3, very small, compressed, far apart, the hinder with a small central internal lobe; carnassial triangular, about as long as wide, inner lobe central; molars trigonal, somewhat like carnassial. Madagascar.

#441 Eupleres [or Viverra ¹] goudotii Doyère, 1835, Bul. Soc. Sci. nat., France, no. 5. June, 103; 1835, Ann. Sci. nat., Paris, 2d ser., v. 4, Nov., 280, pl. 18.

Small-toothed mungoose. Madagascar.

Trichodectes †1100.—Ext.

madagascariensis.—Madagascar t.—T. h.

#442 (422). Circumanal sac present, scent-glands absent. See #443.

#443 (445). CRYPTOPROCTIDAE Flower, 1869, Proc. Zool. Soc. London, 37.—Claws retractile, sharp, compressed, very curved. Perineal scent-glands absent; capacious circumanal sac present; penis highly complex in structure, with large bone. A large supracondyloid foramen present; bulla not distinctly everted. Teeth 36: i. 3/3, c. 1/1, pm. 4/4, m. 1/1; jaws short; teeth sectorial, closely resembling those of felidae. See #444.

#444. Cryptoprocta Bennett, 1833, Proc. Zool. Soc. I ondon, v. 1 (4), May, 46, mt. tod. ferox.—The fossa, Beutelfrett. Teeth 36: i. 3/3, c. 1/1, pm. 4/4, m. 1/1; 1st premolar of both jaws very minute and early deciduous; upper carnassial has a very small inner anterior tubercle; true molar very small and placed transversely; lower carnassial with large trenchant bilobed blade, and a very minute talon, but no inner cusp. Head conical; whiskers rigid, very long; skull like Felis but proportionately longer and narrower; orbit

 $^{^{10}}$ \sharp 440a (440). Digitigrade. Hallux and pollex very short, with small digital pads and set well above 2nd digit; skull and teeth unmodified. See #440b.

^{#440}b (c). FOSSINAE Poeoek, 1929, Encycl. brit., 14th ed., v. 4, 898.—Civet-like animal. Feet with large digital pads, not imbedded in velvety hair; digitigrade; claws nonretractile or at most partially retractile, unguarded by lobes of skin; area between plantar and digital pads naked or mostly so; hallux high above plantar pad, with accessory pad close to it. Madagascar. Contains Fossa.

^{#440}c (b). PRIONODONTINAE Gill, 1872a, 4.—Linsangs. Elegant genet-like animals. Feet with small digital pads, imbedded in velvety far; digitigrade; claws completely retractile and probably guarded by skin-lobes; area between plantar and digital pads thickly hairy; hallux scarcely higher up than plantar pad, its accessory pad (hallucal lobe) close to or touching plantar pad. Penis small, close to scrotum. Southeastern Asia. Contains Prionodon (syn. Linsang) and Pardictis. Syn. Linsanginae Pocock, 1915, Ann. Mag. Nat. Hist., 8th ser., v. 16 (94), Oct., 350.

widely open behind; ears moderate, covered with short hair externally; nose with a distinct, naked, central longitudinal groove below. Vertebrae: C. 7, D. 13, L. 7, S. 3, Cd. 29. Body elongated. Limbs moderate in size; feet subplantigrade, soles naked; toes, 5 on front foot, 5 on hind, well-developed, united by a web. Tail long and cylindrical, covered with long flaccid hair. Madagascar.

#444 Cryptoprocta ferox Bennett, 1833, Proc. Zool. Soc. London, pt. 1 (4), May, 46. Fossa, Foussa, Beutelfrett. Madagascar ^t.

Toxoplasma †89.—Blood.

species Plimmer, 1915.—London Zoo, from Madagascar.

#445 (443). Claws not retractile; prescrotal gland absent. See #446.

#446. MUNGOTIDAE ³¹ Pocock, 1916, Proc. Zool. Soc. London, 349.—Anus opens into a sac; alisphenoid canal present; supracondyloid foramen present. Secretion of anal glands (the orifices of which are outside the anus) discharged into a nearly naked, glandular, cutaneous sac capable of being closed by juxtaposition of upper and lower halves of its thickened rim. Perineal scent-gland absent in both sexes. Vulva close beneath lower rim of anal sac. Prepuce close to scrotum; glans penis short, with orifice on its lower surface; baculum present. Feet with fossorial, nonretractile, usually long claws; pollex and hallux, when present, arise just above plantar pad. Ear rounded, small or moderate, without marginal bursa, but with anterointernal ridge (intratragus) curving abruptly backwards beneath supratragus, and high above the intertragal notch. Bulla distinctly everted. Syn. herpestidae Gill, 1872a, 5; Pocock, 1929, Encycl. brit., 14th ed., v. 4, 898. See #447. #447 (449; 452). Toes 4 on front feet, 4 on hind feet. See #448.

31 Pocoek (1919, 522-524) has divided this family into 2 suhfamilies as follows:

A (B). MUNGOTINAE Poeoek, 1919, Ann. Mag. Nat. Hist., London, 9th ser., v. 3 (18), 522.—Mongooses. Supratragus large and valvular, with a valvular flap just above it. Plane of base of skull subparallel to plane of palate; hullae much longer than wide, inflated, project some distance helow condyles. Contains all genera except Suricata. Syn. HERPESTINAE Gill, 1872a, 5.

B(A). SURICATINAE Thomas, 1882, Proc. Zool. Soc. London, Jan., 59; Pocock, 1919, Ann. Mag. Nat. Hist., London, 9th ser., v. 3 (18), 522.—Supratragus a simple ridge with no valvular flap above it. Plane of base of skull inclined at an obtuse angle to plane of palate; hullae nearly as wide as long, very flat, and project only slightly below occipital condyles, which are situated between their postero-superior portion; ridge of mastoid extends on outer side of bulla below inferior edge of auditory meatus. One genus #448 Suricata.

Poecck's elassification and key to genera are very suggestive and may eventually stand. Pending further experience by mammalogists, however, we adopt, for purpose of this bulletin, as basis for the generic key a grouping which (though not pretending to be phylogenetic) is easier to follow, as it starts out with characters of the toes and nose.

The generic and specific synonymy of this group is very confused in literature, especially as respects the names *Herpestes*, *Mungos*, and *mongo*. Allen, Pocock, and Thomas have done much to straighten out the difficulties, but it is necessary to keep in mind the type species and locality adopted by a given author or the reader becomes hopelessly confused.

#448 (448a³²). Suricata ³³ Desm., 1804, Nouv. Diet. Hist. nat., ed. 1, 15, tab. 24 [nv], mt. capensis Desm., 1804, tsd. (1882; 1900; 1904) tetradactyla Schreb., 1777 syn. (1904) capensis Desm. syn. (tsd. 1918) suricata syn. zenik.—Suricates, Meerkats, Schnarthier. Philtrum absent. Head spherical; nose elongate, produced; underside hairy, convex, without any central groove; nostrils long, opening on sides; cars small, semicircular, and set well back and low down on head; teeth 36 to 38: i. 3/3, c. 1/1, pm. 3/3-4, m. 2/2; deutition more generalized, rather crushing than sectorial, upper carnassial (pm. 4) set forwards so that its posterior angle is well in advance of root of malar arch, the whole or practically the whole of m ¹ being also in advance of that point, the line of the cheek-teeth forming a much more even curve at the junction of pm ⁴ and m ¹. Body elongate; hair soft, annulated. Legs moderate; tarso-metatarsus naked; claws long, not retractile; front very long, nearly twice the length of those on hind feet, slender, compressed, arched; pollex and hallux suppressed. Anal glands 2. Tail tapering, slender, covered with short hair, and rather pencilled at tip. S. Africa.

#448 Suricata [or Ryzaena o] suricatta (? Schreb., 1776, Säugth., v. 3, pl. 97; Erxl., 1777, Syst. Regn. Anim., 488 [Viverra l]) Thomas, 1882, Proc. Zool. Soc. London, no. 6, 92. Cape Colony, S. Africa. So. #448 Suricata tetradactyla, fide Thomas, 1882, 92; Lydekker, 1896a, 276; Trouess., 1897c, 340.

Filaria †435.

setariosa.—Adipose tissue surrounding intest.—Transvaal¹, S. Africa.—T. h.

Microfilaria †432.

[species Plimmer, 1912.—S. Africa.]

Haemaphysalis †869.—Ext.

†leachi.—S. Africa.

Ctenocephalides †1639.-Ext.

†canis.—S. Africa.

connatus.—Grahamstown, S. Africa.

#448 Suricata suricatta hamiltoni Thomas & Schwann, 1905, Proc. Zool. Soc-London, v. 1 (9), 134. Wakkerstroom ^t, S. E. Transvaal.

Trichodectes †1100.—Ext. cooleyi.—Pretoria District , Transvaal.—T. h.

^{32 #448}a (448). Philtrum present. See b.

b (c). Bdeogale Peters, 1850, Mitth. Ges. naturf. Fr. Berlin, Nov. 19 [nv]; 1852, Bericht Verhandl. König. Preuss. Akad. Wiss., Berlin, 81–82; Naturwiss. Reise nach Mossambique, Zool., I, Säugeth., 119–125; tsd. (1882; 1904; 1919; 1924) crassicauda.—Webs deep as compared with length of digits; palmar and plantar surfaces of feet furred; metatarsus covered with hair almost to plantar pad. Ears moderate or small, with no pocket behind antitragal ridge; skull elongate, low; teeth 40; pm. 4/4; inner portions of upper nuolars 1 and 2 thick, strong; last lower molar with median external cusp. Africa.

Syns.: Beleogale ^m Marschall, 1873, Nomenclator Zool., Manun., 3;

Galeriscus • Thomas, 1894, Ann. Mag. Nat. Hist., London, ser. 6, v. 13 (78), June, 522, mt. jacksoni Thomas, 1894.

c (b). Paracynictis Pocock, 1916, Ann. Mag. Nat. Hist., ser. 8, v. 17 (98), Feb., 177-179, nat. tod. sclousi de Winton, Bulawayot.—Webs very shallow as compared with length of digits, especially between 3 and 4, 4 and 5; pollex and hallux suppressed; metatarsals hairy down to plantar pad. Ears very large for the group, with a small pocket behind antitragal ridge; skull short, high; inner portions of upper molars 1 and 2 slender, weak; last lower molar without median external cusp.

³³ Syns.: Rizaena m Blainville, 1817, Nouv. Dict. Hist. nat., v. 9, 339;

Rhyzaena • Wagner, 1841, Schreber's Säugthiere, Suppl., v. 2, 330, mt. tctradactyta Pall. syn. capensis Desm. syn. zenik Linn.;

Rysaena ^m Lesson, 1827, Man. Mamm., Paris, 178;

Ryzaena o Illiger, 1811, Prodr. Syst. Mamni, et Aviuni, 134, int. tetradactyla syu. zenik.

The synonymy of *tetradactyla* is rather confused and brings up the controversial point in nomenclature regarding erroneously determined species. The generic name *Suricata* follows *capensis*.

#448 Suricata suricatta suricatta (Erxl., 1777, Syst. Regn. Anim., 488 [Viverra 1]). Slender-tailed Meerkat, typical suricate. S. Africa.

Echidnophaga †1633.—Ext. bradyta.—S. Africa. †gallinacca.—S. Africa.

Xenopsylla †1636.—Ext. crilli.—S. Africa.

#448 Suricata [or Rhyzacna °, Ryzacna °] tetradactyla (Pallas in Schreb., 1777, Säugth., v. 3, 434, pl. 117; Zimm., 1777, Spec. Zool., 482 [Viverra ¹]) Thomas, 1882, Proc. Zool. Soc. London, no. 6, 92. Slender-tailed Meerkat, Schnarrthier, Surikate, vierzehige Rüsselträger, vierzehige Schnarrthier. South Africa ¹; Cape Colony, ranging to Algoa Bay.

Giardia †139.—Intest.

suricatae.—Pretoria t.—T. h.

Haemaphysalis †869.—Ext.

†leachi e.—Cape Colony; Sierra

Leone.

Echidnophaga †1633.—Ext. bradyta.—Cape Colony t. †gallinacea.—Cape Colony. Xenopsylla †1636.—Ext. crilli.—Cape Colony.

#449 (447; 452). Tees 5 on front feet, 4 on hind feet. See #450.

#450 (451). Cynictis Ogilby, 1833, Proc. Zool. Soc. London, pt. 1 (4), May 24, 48, mt. steedmanni so. (tsd. 1900; 1904; 1919) penicillata Cuv.—Meerkat. Teeth 40: i. 3/3, c. 1/1, pm. 4/4, m. 2/2; inner portions of upper m¹ and m² slender, weak; last lower molar without median external cusp. Rhinarium naked, skin of upper lip (from rhinarium to mouth) appears to be naked, but it is covered with very fine hair; mid line of upper lip has a very narrow, naked groove (philtrum), which is easily overlooked, extending from rhinarium to margin of upper lip (fide Miller). Ears very large for the group, with a small pocket behind the antitragal ridge; skull short, high; frontal portion of skull strongly convex, brain-case high; a well-marked vacuity in floor of auditory meatus, consisting of a more or less rounded hole, which, as the animal gets older, gradually fills up, but never produces the row of small holes found in Suricata. Body slender. Tail with long hairs, flattened horizontally. Legs short; forefoot hairy down to carpal pad, hind soles quite hairy down or almost down to plantar pad; front claws elongate, compressed, arched; webs very shallow as compared with length of digits, especially between digits 3 and 4, 4 and 5; hallux suppressed. South Africa (Uitenhage ^t, on borders of Caffraria).

#450 Cynictis [or Mangusta 1] penicillata (Illiger, 1815, Abh. König. Akad. Wiss., 1804–1811, Berlin, 79, 86 [Herpestes 1]) Ogilby, 1839, Smiths Illustr. Zool. S. Afr., v. 1, tab. 16 [nv]; Thomas, 1882, Proc. Zool. Soc. London, no. 6, 83. Bushy-tailed Meerkat, Fuelis-Manguste, Geel, Igala, Rooi Meerkat. S. Africa.

SARCOSPORIDIA †149.—Striated muscles.

[species Viljoen, 1921: Sarkosporidien.—S. Africa.]

Dipylidium †308.—Intest. zschokkei.—Sekuma ^t, S. Africa. Subulura †488A'.

schebeni.—Intest.—S. W. Africa.

Haemaphysalis †869.—Ext.
†leachi · leachi.—Transvaal.
Ctenocephalides †1639.—Ext.
†canis.—S. Africa.
connatus.—S. Africa.
Echidnophaga †1633.—Ext.
bradyta.—Cape Colony.
†gallinacea.—S. Africa.

Listropsylla < †1626.—Ext. dolosus stygius.—Uganda. Felicola < †1099.—Ext. cynictis.—S. Africa t.—T. h. Xenopsylla †1636.—Ext. erilli.—S. Africa.

#450 Cynictis species.

Dipylidium †308.—Intest. zschokkci.—S. Africa.

#451 (450). Galerella Gray, 1864, Proc. Zool. Soc. London, 509, 564, mt. ochracca Gerrard,? so. tsd. (1882; 1904) gracilis Rüppell, E. Africa.—Weasellike mongooses. Teeth 38, pm. 4/3. Philtrum present. Head elongate, conical; auditory bullae with subequally developed chambers, posterior little larger than anterior. Body diminutive, slender; short, fine, closelying pelage. Tail elongate, slender, tapering, covered with shortish hairs. Legs short; feet small, weak; toes 5 on front feet, 4 on hind feet; pollex and hallux greatly reduced; hind toes 3 and 4 webbed; elaws short, weak, compressed, acute; soles furred for nearly proximal half. Abyssinia to Cape. The species ochracca is accepted by Palmer as synonymous with gracilis, but this view is not adopted by Thomas (1929) and Cabrera (personal letter).

#451 Galerella brunneo-ochracea Matschie [nv].

Haemaphysalis †869.—Ext.

†leachi.—Belgian Congo.

Felicola <†1099.—Ext.

rammei.—Belgian Congo.

#451 [Galerella] [or Calogale ¹, Herpestes ¹, Mungos ¹] cauui (Smith, 1836, App. Rep. S. Afr. Exp., 42 [nv]). Slender mungoose. Eastern parts of Cape Province, Pondoland, Natal, and northward to Abyssinia and Cape Verde. So. #451 [Galerella] gracilis badius, fide Thomas, 1882, 68; Trouess., 1897c, 334; Selater, 1900, 62. Syns.: Mungos ¹ caaui ^o Fitzsimons, 1919, Nat. Hist. S. Afr., v. 2, 23; Herpestes ¹ cawi ^o Trouess., 1897c, Cat. Mamm., Berolini, 334.

Chiastopsylla <†1626.—Ext.

†rossi.—S. Africa.

Felicola < †1099.—Ext.

calogaleus.—Transvaal.—T. h.

Listropsylla <†1626.—Ext.

agrippinae.—Cape Province.

#451 Galerella [or Mungos ¹] (Herpestes ¹) gracilis (Rueppell, 1836, Neue Wirbelth, Abyssin., v. 7, 29 [Herpestes ¹]) Thomas, 1882, Proc. Zool. Soc. London, no. 4, 63. Slender mungoose, Sakie. Africa south of Sahara (Massowa ¹ on Red Sea).

Oochoristica 319K.—Intest.

ichneumontis.—Pretoria, S. Africa t.—T. h.

Felicola < †1099.—Ext.

mungos.—German E. Africa.—Host "Herpestes affin. gracilis."

Pulex †1635.—Ext.

†irritans.—Somaliland.

#451 [Galerella] (Herpestes !) gracilis badius (Smith, 1838, Hlus. Zool. S. Afr., Mamm., pl. 4 [Herpestes !]; Thomas, 1882, Proc. Zool. Soc. London, no. 5, 68-69 [Herpestes ! gracilis]). Ruddy mungoose, Fuchs-Manguste. S. Africa extending from the Cape to Zanzibar (Old Latakoo ! in neighborhood of Kuruman in Bechuanaland).

Ctenocephalides †1639.—Ext. connatus.—S. Africa.

Echidnophaga †1633.—Ext. †gallinacea.—Cape Province.

Felicola < †1099.—Ext. mungos.—Zanzibar.

Listropsylla < †1626.—Ext. dorippae.—Deelfontein^t, Cape Colony.—T. h. vicinus.—Transvaal^t.—T. h.

#451 [Galerella] [or Calogale 1, Herpestes 1, Mungos 1] ratlamuchi 6 (Smith, 1836, Rep. exped. explor. Central Afr., Cape Town, 42 [Ichneumon 1 6 oratlamouchi] [nv]; Smith, 1837, Cat. S. Afr. Mus., 22 [Mangusta 1 ratlamuchi]). Bay mungoose, ruddy mungoose. South Africa to Zanzibar. So. #451 [Galerella] gracilis badlus, fide Sclater, 1900, 62.

Echidnophaga †1633.—Ext. †gallinacea.—S. Africa.

#451 Galerella [or Calogale ¹] (Herpestes ¹) sangulneus (Rueppell, 1836, Neue Wirbelth. Abyss., (7), 27 [Herpestes ¹]) Allen, 1924, Bul. Amer. Mus. Nat. Hist., N. Y., v. 47, 178. Abu Wusie. Egypt.

Oochoristica 319K.

herpestis.—Sudant.—T. h.

#452 (447; 449). Toes 5 on front feet, 5 on hind feet. See #453.

#453 (457). Philtrum absent. See #454.

#454 (454a³⁴). Teeth 36: i. 3/3, c. 1/1, pm. 3/3, m. 2/2. Palate flat. Ears small and rounded. Legs short, semiplantigrade, forepaws broad, with very long claws; soles bare, at most the heel of hind foot hairy. Africa. [Crossarchus of Mivart, 1882, 206; Sclater, 1900, 72; and Thomas, 1882, 63.] See #455.

#455 (456). Mungos r 35 Geoffr. & Cuv., 1795, Mag. Eneyel., v. 2, 184, 187, tat. mungos, tsd. (1919; 1924) mungo Gmel., of Africa; as of Allen, 1919, 27–31, Allen, 1924, 186, and Gray, 1864, 509.—African banded mongoose. Anal sac complex. Infranarial portion of rhinarium shallow; snout short; pm. 3/3; foramen rotundum opens directly into temporal fossa (instead of into alisphenoid canal as in other genera). Toes 5 on front feet, 5 on hind feet; front and hind toes 3 and 4 webbed; hind soles naked.

#455 Mungos ¹ brachyurus brachyurus (Gray, 1837, Proc. Zool. Soe. London, pt. 4 (46), Feb., 88 [Herpestes]; Pocock, 1916, Proc. Zool. Soe. London, 349 [Mungos ¹]). So. #464 Herpestes brachyurus brachyurus, q. v.

^{34 #454}a (454). Rhynchogale Thomas, 1894, Proc. Zool. Soc. London, pt. 1, June 1, 139, mt. (tsd. 1900; 1904; 1919) melteri, Rhinogale h Gray, 1864 [not Gloger, 1841, MUSTELIDAE] renamed.—Teeth 40 (exceptionally 42): i. 3/3, c. 1/1, pm. 4/4 or 5/4, m. 2/2. Palate deeply concave both transversely and longitudinally. Legs long, digitigrade, forepaws narrow, claws short, hind soles hairy, metatarsus covered with hair almost to the plantar pad. Ears long. Posterior cheek-teeth flat-crowned; mesopterygoid fossa set forward. S. Africa. Syn. Rhinogale h • Gray, 1864, Proc. Zool. Soc. London, 509, 573, mt. melleri [not Rhinogale Gloger, 1841].

²⁵ Syns.: Ariela Gray, 1864, Proc. Zool. Soc. London, 509, 565, mt. Herpestes ¹ taenionotus Smith so. tsd. (1882; 1904) fasciatus Desm. of Natal, South Africa; Pocock, 1916, Proc. Zool. Soc. London, 349; Pocock, 1919, Ann. Mag. Nat. Hist., Ser. 9, v. 3, 523;

Crossarchus ¹, in part, of most recent authors [not Cuvier], as Thomas, 1882, Proc. Zool. Soc. London, 86 (in part) and Sclater, 1900, 72;

[[]Mongo "Ogilby" of Lesson, 1842, Nouv. Tabl. Règn. anim., Mamm., 63, tat. Mangusta mongo, erroneously as so. ichneumon, subg. of Herpestes, confusion as to geographical locality];

Mungo o Muirhead, 1819, Brewster's Edinb. Encycl., v. 13 (2), 415, tat. mungo Linn.;

Mungos of Gray, 1843, List Spec. Mamm. Brit. Mus., 50, tsd. (1882; 1904) 1st sp. gambianus;

Mungos of Gray, 1864, Prog. Zool, Soc. London, 575, type, by toutonomy (1924), 2nd sp. Her-

Mungos of Gray, 1864, Proc. Zool. Soc. London, 575, type, by tautonomy (1924), 2nd sp., Herpestes 1 mungo Desm.=Mungos fasciatus Gray, from Africa;

[[]Not Mungos Geoffr. & Cuv., of Thomas, 1907, Ann. Mag. Nat. Hist., ser. 7, v. 19, 119];

[[]Not Mungos b Ogilby, 1835, Proc. Zool. Soc. London, pt. 3 (31), 102-103, mt. vitticollis Bennett].

#455 Mungos [or Aricla, Atilax , Crossarehus] fasciatus (Desmarest, 1823, Diet. Sci. nat., v. 29, 58 [Herpestes], renaming of mungo Gmel.) Gray, 1843, List Mamm. Coll. Brit. Mus., 50. Banded mongoose of Africa; broadbanded cusimanse, Marsh mongoose, gebänderte Manguste, Zebramanguste. Africa (Kaffraria through Natal, Transvaal, and northward into East Africa). So. #455 Mungos mungo, q. v.

#455 Mungos ¹ ichneumon funestus Osgood, 1910, Field Mus. Nat. Hist., Zool. ser., v. 10 (3), Apr. 7, 17. So. #464 Herpestes ichneumon funestus,

a. v.

#455 Mungos [or Herpestes \(^1\), Ichneumon \(^1\), Mangusta \(^1\)] mungo (Gmel. in Linn., 1788, Syst. Nat., v. 1, 84 [Viverra \(^1\)]) Wroughton, 1912, J. Bombay Nat. Hist. Soc., v. 21 (2), Mar. 31, 401. Banded mongoose of Africa, Antur, Binguidaro, Dhor, Hou-Kera, Kera, Kiri, Kiripilai, Koral, Mangisu, Mangús, Mugatea, Múngali, Mungili, Mungisa, Mungli, Múngsi, Mungús, Newal, Newala, Newar, Noriyo, Nyul, Rasu, Sarambumbui, Yentawa. Africa; India \(^t\) erroneously. Syns.: Mangusta \(^1\) mungos Elliot, Mad. J. Linn. Soc. X, 102 [nv]; Mangusta \(^1\) mungoz Gray in Griffith's Cuv., 1827, Anim. Kingd., Syn., 156.

Babesia †173.—Blood. [species Martini, 1923.] Theileria †174.—Blood.

species "Patton, 1910."

Trichomonas †131.

species Reichenow, 1925.—Germany.

Paragonimus †250.—Lungs. compactus.—India.—T. h.

Filaria †449.

martis.—India.

Subulura †488A'.

loveridgei ⁸.—Africa.—T. h.

Thelazia †464.

depressa.—E. Africa.

Armillifer †796.

 $\dagger armillatus.$

Haemaphysalis †869.—Ext.

cuspidata.—"Ceylon"i.

†leachi.—"India."—Host confusion? Cf. #464 "Herpestes mungo" from India.

leachi indica.—"India."

Tympanospinctus < †887.—Ext.

paradoxus.—Greenwood Park t.— T. h.

Ceratophyllus †1627.—Ext. fasciatus.

#455 [Mungos mungo] senescens (Thomas & Wroughton, 1907, Proc. Zool. Soc. London, 291 [Crossarchus | fasciatus | o]). Gale. Coguno | near Inhambane, Portuguese East Africa.

SARCOSPORIDIA †149.—Striated muscles.

[species Viljoen, 1921: Sarkosporidien.--S. Africa.]

#455 Mungos ¹ urva (Hodgson, 1836, J. Asiatic Soc. Bengal, v. 5, 238 [Gulo ¹]). So. #464 Herpestes urva, q. v.

#456 (455). Crossarchus Cuv. in Geoffr. & Cuv., 1825, Hist. nat. Mamm., v. 3 (47), Feb., 5, mt. tod. obscurus Cuv.— Cusimanses, Rüsselmanguste. Anal sae simple. Infranarial portion of rhinarium deep; snout long; head roundish; teeth 36 (i. 3/3, c. 1/1, pm. 3/3, m. 2/2); underside of nose convex, hairy, without any eentral longitudinal groove; hair rigid, short, shorter on head and throat; muffle large, callous; pupil circular; ears rounded. Body slender. Fur harsh, with longer and more rigid hairs. Tail slightly compressed, tapering, covered with shorter hairs. Toes 5 on front feet, 5 on hind feet, free; two middle toes longest; front inner toe large, hinder smaller; hind soles naked; claws rather elongated, compressed, hooked, acute, sometimes very much so. Africa.

#456 Crossarchus ¹ fasciatus ^o (Desmarest, 1823, Dict. Sci. nat., v. 29, 58 [Herpestes ¹]) Thomas, 1882, Proc. Zool. Soc. London, 86. So. #455 **Mungos**

fasciatus, q. v.

#456 Crossarchus ^t obscurus Cuv. in Geoffr. & Cuv., 1825, Hist. nat. Mamm., v. 3 (47), Feb., 3. Braune Rüsselmanguste, Cusimanse, Kusimanse. West Africa (Cameroon, Congo).

Agamospirura †457.—Intest. liberiae.—Liberia ^t.—T. li.

Armillifer †796.

†armillatus.—Africa t.

Haemaphysalis †869.—Ext.

†leachi.—Ears, eyelids, face.—Liberia.

- #456 Crossarchus ¹ [fasciatus ^o] senescens Thomas & Wroughton, 1907, Proc. Zool. Soc. London, 291. So. #455 [Mungos mungo] senescens, q. v.
- #457 (453). Philtrum present. This is practically *Herpestes* ¹ of Thomas, 1882, with many synonyms. Pocock (1919) suspects "this genus will prove to be divisible into three or more genera when better known"; Allen (1924) divides *Herpestes* into six genera, but it is somewhat difficult to separate these clearly into a key. Furthermore, Allen mentions the fact that some of his "uniform" characters have exceptions. See #458.
- #458 (459). Atilax Cuv. in Geoffr. & Cuv., 1826, Hist. nat. Mamm., v. 3 (54), June, 2, tod. vansire=(tsd. 1882; 1900; 1904) galera Schreb.=(tsd. 1918; 1919; 1924) paludinosus Cuv.— Marsh mongoose, water mungooses. Toes 5 on front feet, 5 on hind feet; digits 2 to 5 entirely free (unwebbed), separated down to plantar pad; palmar and plantar surfaces naked. Braincase very broad; rostrum short; teeth and jaws massive; premolars 3/3; molars large. Glandular anal sac well developed. Pelage soft, thick, long. Syn. Athylax ° Blainville, 1837, Ann. Sci. nat., Paris, 2d ser., Zool., v. 8, 272, 278, "vansire", Africa.
- #458 Atilax ^t [or Alhylax, Herpestes ¹, Ichneumon ^h, Mangusta ¹, Viverra ¹] (Alhylax, Herpestes ¹) galera (Erxl., 1777, Syst. Regni Anim., v. 1, 453 [Mustela ¹]) Thomas, 1882, Proc. Zool. Soc. London, no. 4, 63. Rufous mungoose, water mungoose, Bruin Kommetjegat-kat, dunkle Manguste, Ivuzi, Zwarte Muishond. W. & S. Africa.

Fide Pocock (1915, Ann. Mag. Nat. Hist., ser. 8, v. 16, Aug., 123-124) and Allen (1924, Bul. Amer. Mus. Nat. Hist., v. 47, Apr. 11, 166), galera is unidentifiable; it is not identical with the vansire of Cuvier so. paludinosus Cuvier type of Atilax.

Syns.: Herpestes ¹ calera ^m "Erxl." Bédier, 1924, C. r. Soc. Biol., v. 90 (6), 415; galea ^m.

Babesia †173.—Blood.

legeri.—Paris ^t, France from Africa.—T. h.

Cotugnia †305b.—Intest.

pluriuncinata.—Dahomey ^t, W. Africa.—T. h.

Raillietina (Raillietina) †305k.—Intest. africana.—Dahomey ^t, W. Africa.—T. h.

pintneri.—Dahomey, W. Africa.

Felicola < †1099.—Ext.

acutirostris.—Pemba ^t, Africa.—T. h. rammei.—Amani ^t, German E. Africa.—T. h.

#458 Atilax [or Herpestes 1] (Herpestes 1) galera robusta (Gray, 1864, Proc. Zool. Soc. London, no. 35, 558 [Athylax e]) Thomas, 1882, Proc. Zool. Soc. London, no. 5, 72. E. Africa (White Nile t).

Ctenocephalides †1639.—Ext. †canis.—Kibonoto, Africa.

#458 Atilax ^t [or Athylax °, Mangusta ¹, Mungos ¹, Viverra ¹] paludinosus (Cuvier, 1829, Règne anim., 2d ser., v. 1, 158 [Herpestes ¹]) Pocock, 1916, Proc. Zool. Soc. London, 349. Marsh mongoose, water mungoose, Bruin Kommetjegat-kat, Ivusi, Zwarte Muishond. Cape of Good Hope ^t; south Africa north to equator. Syn. Athylax ° paludosus ^c ° Gray, 1864, Proc. Zool. Soc. London, no. 35, 557.

Cloeoasearis <†476q.

spinicollis.—Alimentary canal.—Tanganyika.

Armillifer †796.

†armillatus.

#458 Atilax "paludinosus robustus" (Gray, 1864, Proc. Zool. Soc. London, no. 35, 558 [Athylax •]). Cf. #458 Atilax galera robusta.

Haemaphysalis †869.—Ext.

†leachi.—Belgian Congo.—Host i.

- #459 (458). Toes 2 to 5 united, beyond margin of plantar pad, by web. See #460A.
- #460A (460B). Helogale Gray, 1861, Proc. Zool. Soc. London, no. 20, 308, tsd. (1900; 1904; 1919) 1st sp. parvula Sundeval, from Natal.—Lesser mungooses. Pm 1 suppressed, no diastema between upper canine and pm 2. Teeth 36: i. 3/3, c. 1/1, pm. 3/3, m. 2/2. Body small, slender. Head oval; skull short, broad, smooth; face short; a bare line runs from nose to upper lip; ears distant. Legs short, strong; feet broad; toes 5 on front foot, 5 on hind, heavily developed, inner toe small; claws strong, burrowing, front claws rather clongate, compressed, acute; soles of hind feet partly bald. Tail conical, short, thick, rounded at base, covered with clongate hairs. Anal glands 1 pair. Mozambique to Natal, Africa.
- #460A Helogale brunnula Thomas & Schwann, 1906, Proc. Zool. Soc. London, 581. Mashli. Klein Letaba^t, Zoutpansberg, N. E. Transvaal.

SARCOSPORIDIA †149.—Striated museles. [species Viljoen, 1921: Sarkosporidien.—S. Africa.]

#460A Helogale varia Thomas, 1902, Proc. Zool. Soc. London, 119. N. Nyasaland.

Haemaphysalis †869.—Ext. †leachi.—Rhodesia.

- #460B (460A). Pm ¹ present or absent; if absent a diastema is present between upper canine and pm ¹; teeth 40 or 36. See #461.
- #461 (463). Soles hairy (furred); toes 5–5; teeth 40. See #462.
- #462 (462a³⁶). Ichneumia Geoffr., 1837, Ann. Sci. nat., Paris, ser. 2, Zool., v. 8, Oct., 251; 1837, C. r. Acad. Sci., Paris, v. 5 (17), post Oct. 23, 580; tsd. (1839 Lasiopus h renamed; 1919) 1st sp. albicauda Cuvier, E. Africa, Senegal.—Soles hairy; toes 3 and 4 webbed. Teeth 40; dentition heavy, especially pm 4 and all molars; last lower molar cuspidate; frontal region elevated, expanded; tail short, thick. Philtrum present. Syn. Lasiopus h Geoff., 1835, in Gervais' Résumé Mamm., v. 1, 37, mt. albicauda [nv] [not Lasiopus Dejean, 1833, coleopt.].

^{46 #462}a (462). Xenogale Allen, 1919, J. Mamin., v. 1 (1), Nov., 26-27, int. tod. microdon. -Soles and palms furred; teeth 40.—Skull short, broad, especially postpalatal region; postorbital constriction deep and close behind postorbital process; brain case short.—Tail short, thick.—Belgian Congo, Africa.

#462 Ichneumia [or Iehneumon h, Mangusta l, Viverra l] (Ichneumia) albicauda (Cuvier, 1829, Règne anim., ed. 2, v. 1, 158 [Herpestes l]) Geoffr., 1837, C. r. Aead. Sci., Paris, v. 5, Oct., 580. Large African mongoose, white-tailed mungoose, weisssehwänzige Manguste. Senegal l; eastern Abyssinia to Natal, W. Africa (Guinea, etc.); Arabia. Syns.: Ichneumon h albicaudatus Boyer de Fonscolombe, 1847, Ann. Soc. ent. France, ser. 2, v. 5, May, 62; Ichneumon h albicaudis A. Smith, 1834, S. Afr. Quart. J., v. 2, no. 2 (1), Mar., 115 [nv]; Herpestes l laticauda m Parona, 1893a, 6.

Cystieercus †326.

hcrpestis.—Liver, mesentery, peritoneum.—Eritrea ^t.—T. h.

Diphyllobothrium †295.

folium.

†latum.—Africa.

Toxocara †484.—Intest.

†canis.

†mystax °.

Amblyomma †881.—Ext.

species Neum., 1902e: Amblyomma.—Abyssinia.

Armillifer †796.

†armillatus.

Haemaphysalis †869.—Ext.

†leachi e leachi.

Echidnophaga †1633.—Ext. †gallinacea.

Xenopsylla †1636.—Ext. nubicus.—Shendi ^t, Africa.

#462 Ichneumia leucurus * (Hempr. & Ehrenb., 1833, Symb. Phys., Mamm., dec. 2, pl. 12, 6 pages [Herpestes ¹]) Lesson, 1842, N. Tab. Règne anim., Nov., 64. Abu Turban. Africa (E. Dongala Aethiopiae ¹). So. Ichneumia albicauda, fide Selater, 1900, 66; Lydekker, 1896, 264; Trouess., 1897, 337. Distinct species, fide Allen, 1924, 194.

Diphyllobothrium †295.—Intest. folium.—Sennar t, Sudan.—T. h.

#463 (461). Soles naked. See **#464**.

#464. Herpestes ^{37 38} Illiger, 1811, Prodr. Syst. Mamm., 135 (Herpertes ^m), 297 (Herpestes), Iehneumon ^h 1799 + "Mangusta 1804" renamed, ergo tod. also tsd. (1878; 1882; 1900; 1904; 1915; 1924) 1st sp. ichneumon Linn., of

87 Syns.: Calictis • Gray, 1864, Proc. Zool. Soe. London, 509, 564-565, mt. Herpestes 1 smithii Gray, from Ceylon;

Calogale • Gray, 1864, Proc. Zool. Soc. London, 509, 560, tsd. (1882) 2d sp nepalensis Gray, from Nepal;

Herpetes m Cuv., 1825, Dents Mamm., Paris, 252;

Iehneumon b · Laeépède, 1799, Tab. Mamm., 7, mt. pharaon Laeépède, from Egypt, so. (tsd. 1882; 1900) ichneumon Linn. [not Ichneumon Linn., 1758a, hymenopt.];

Mangasta ^m Hodgson, 1835, J. Asiatie Soe. Bengal, v. 4, 522;

Mangouste, 1803, Nouv. Diet. d'Hist. nat. An xi, 1 ed., v. 14, 54 [nv].

Monsieur Paul Rode, Assistant de Mammalogie au Muséum national d'Histoire Naturelle de Paris, very kindly looked up the bibliographie reference to "Mangusta Olivier, Nouv. Diet. Hist. nat., 1 ed." as given by Horsfield, 1822, Zool. Res. Java. This reference, Monsieur Rode writes, was evidently erroneous, but it has been copied by various authors. In regard to vol. 14, Nouv. Diet. d'Hist. nat., 1 ed., he writes: "page 54: Mangouste.

"Aueune mention d'un genre Mangusta Olivier. On trouve seulement en 4 pages, la description des genres: Mangouste des Indes, Mangouste du Cap de Bonne Espérance, Mangouste d'Egypte (iehneumon)."

Mangusta • "Olivier" Horsfield, 1822, Zool. Res. Java, no. 5, Oet., [pp. 1-13], pl. is M. javanica, from Java;

"Mangusta Olivier, 1804, Nouv. Diet. Hist. nat., 1 ed., v. 14, 504" [nv] of Palmer, 1904a, 398. See Mangouste;

Martes ho" Illig." Wagler, 1830, Natür, Syst. Amphib., 29, tpd. ichneumon Linn. [Martes hsubstitute for Herpestes Illiger, preoecupied in botany] [not #521 Martes Pinel, 1792, MUSTELIDAE];

Africa; as of Allen, 1919, 31; Thomas, 1882, 63; and Gray, 1864, 508.—Manguste. Teeth 40 (or 36): i. 3/3, c. 1/1, pm. 4/4 (or 3/3 with diastema), m. 2/2; last lower molar with 2 external cusps. Body long and slender. Pupil linear, erect; ears short, wide, rounded, hardly projecting beyond surrounding fur; anterior chamber of auditory bulla small, posterior enormously enlarged; palate long; muzzle pointed; philtrum present. Fur of two kinds, the longer usually ringed or annulated, giving animal a grizzled appearance, the long overhair coarse and harsh. Legs short; feet plantigrade; toes 5 on front feet, 5 on hind feet, first toes of fore and hind feet very small, probably rudimentary; toes not entirely free, front and hind toes 3 and 4 webbed; claws short, compressed, of medium strength; soles entirely naked. Tail very thick, conical, full proximally, tapering to a thin point, long, about one half to nearly the length of head plus body. Africa; Asia Minor; Orient; Persia; South Europe.

#464 Herpestes ¹ **albicauda** Cuv., 1829, Règne anim., ed. 2, v. 1, 158. So. #462

Ichneumia aibicauda, q. v.

#464 Herpestes ¹ albicaudatus ^c (Fonscolombe, 1847, Ann. Soc. ent. France, ser. 2, v. 5 (1), May, 62 [Ichneumon ^h]) Flower & Lydekker, 1891a, Mamm., 536. So. #462 **Ichneumia albicauda**, q. v.

#464 "Herpestes albopunctatus d". Mangouste, Mongoose. For #464 Herpestes birmanicus, q. v., fide Meggitt in litt.

- #464 Herpestes [or Mangasta ^m, Mungos ¹, Viverra ¹] (Herpestes) auropunctatus (Hodgson, 1835, J. Asiatic Soc. Bengal, v. 4, 522 [Mangusta]) Hodgson, 1841, Calcutta J. Nat. Hist., v. 2 (6), July, 213. Small Indian mungoose, gold-punktirte Manguste, Mush-i-Khourma, Núl. S. W. Persia, Sind, Kandahar, lower ranges of Himalayas and neighboring plains from Kashmir to Sikhim, Lower Bengal.
- #464 Herpestes auropunctatus birmanicus Thomas, 1886, Ann. Mag. Nat. Hist., scr. 5, v. 17, Jan., 84. So. #464 Herpestes birmanicus, q. v.
- #464 Herpestes ¹ badius Smith, 1838, Illus. Zool. S. Afr. Mamm., pt. 2, pl. 4. So. #451 [Galerella] gracilis badius, q. v.
 - Mesobema * Hodgson, 1841, J. Asiatic Soc. Bengal, v. 10 (2), no. 119, n.s., July to Dec., 910, mt. tod. cancrivora Hodgson [renaming of Urva Hodgson, 1837, q. v.]; 1841. Calcutta J. Nat. Hist., v. 2 (6), July, 214, mt. Urva cancrivora Hodgson so. (1904) Gulo 1 urva Hodgson, 1837, of Nepal, India;
 - Mungos b Ogilby, 1835, Proc. Zool. Soc. London, pt. 3 (31), 102-103, mt. vitticollis Bennett, from India [not #455 Mungos Geoffr. & Cuv., tsd. mungo];
 - Onychogale Gray, 1864, Proc. Zool. Soc. London, 570, mt. Herpestes | maccarthiae, from Ceylon; Osmetectis Gray, 1842, Ann. Mag. Nat. Hist., v. 10 (65), Dec., 210, 260, mt. fusca Gray, from India, also tsd. (1882) urva;

Osmetictis o Agassiz, 1846, Nomenel., Mamm., Addenda, 7;

- Taeniogale Gray, 1864, Proc. Zool. Soc. London, 569, mt. Mungos | vitticollis Bennett, from India;
- Urra Hodgson, 1837, J. Asiatic Soc. Bengal, v. 6 (2), July, 560, tat. urva Hodgson syn. (tsd. 1904) cancrivora Hodgson, from India; 1838, Ann. Nat. Hist., London, v. 1 (2), April, 152, int.tod. cancrivora Hodgson, from Nepal.
- ³⁸ The subdivisions of #464 *Herpestes* are still *sub judice*. Allen separates *Calogale* at least as a special subgenus as follows:
- A (B). Herpestes Illiger, 1811, Prodr. Syst. Mamm., 135 (Herpertes m), 297, tsd. (1878) ichneumon, of Africa.—Posterior chamber of auditory bullae inflated downward twice as much as anterior chamber, postpalatal region narrow. Africa.
- B (A). Calogale Gray, 1864, Proc. Zool. Soc. London, 509, 560, tsd. (1882) 2d sp. nepalensis Gray, Nepal.—Common mongooses of India. Posterior chamber of auditory bullae not inflated downward below level of anterior chamber; postpalatal region broad. India.
 - Syns.: Calictis* Gray, 1864, Proc. Zool. Soc. London, 509, 564-565, int. Herpestes! smithii Gray, from Ceylon:
 - Galogale ^m Wallace, 1876, Geogr. Distr. Anim., v. 2, 195.

#464 **Herpestes** [or Mungos ¹] (*Herpestes*) **birmanleus** (Thomas, 1886, Ann. Mag. Nat. Hist., ser. 5, v. 17, Jan., 84 [*Herpestes auropunctatus*]) Blanford, 1888, Fauna Brit. India, Mamm., 122. Small Burmese Mungoose. Assam; Burma^t; perhaps Malay Peninsula; introduced and widely established in the West Indies.

Oochoristica 319K.—Intest.

amphisbeteta.—Rangoon ', Burma.—
"Herpestes albopunctatus" t. h.,
for Herpestes birmanicus.

Sparganum †293.

species Meggitt, 1924.—Mesentery, body cavity.—Rangoon, Burma.

Ctenocephalides †1639.—Ext. †fclis.—Hawaii. Echidnophaga †1633.—Ext. †gallinacea.—Hawaii.

#464 Herpestes [or Mungo 1, Mungos 1] (Herpestes) brachyurus brachyurus (Gray, 1837, Proc. Zool. Soc. London, pt. 4 (46), Feb., SS) Charlesworth's Mag. Nat. Hist., n. s. v. 1, 578). Short-tailed mungoose. Indian Ids.^t, Borneo, Malacca, Malay Peninsula; Sumatra; Calamianes Id., Palawan Id., Philippines.

Ctenocephalides †1639.—Ext. †felis.—Sumatra.

#464 Herpestes [or Ichneumon h, Mangasta m, Mangusta, Mungos l, Mustela l] (Herpestes) eafra (Gmel. in Linn., 1788, Syst. Nat., ed. 13, v. 1, 85 [Viverra l]) Illiger, 1811, Prodr. Syst. Mamm., 135. Black-tailed mungoose, Caffre mungoose, Kafir mungoose, large grey mungoose, Kaffern-Manguste, Grijse Muishond, Kommetje-gat-kat, Mvunti, Umvuzi. Africa south of Sahara. Syns.: Mungos h cafer co Trouess., 1904c, Catal. Mamm., 255; Ichneumon h caffer co Fischer, 1814, Zoogn., v. 3, 188; Viverra l caffra co Lydekker, 1896a, 18, 155, 184.

Armillifer †796. †armillatus.—Africa t. Haemaphysalis †869.—Ext. †leachi e leachi.—German E. Africa. Felicola †1099.—Ext.

inacqualis.—Rotterdam
Zoo.

#464 "Herpestes | ealera m Erxl." Bédier, 1924, C. r. Soc. Biol., v. 90 (6), 415. Mangouste d'Afrique. So. #458 Atilax galera, q. v.

#464 Herpestes ¹ cauui ² (Smith, 1836, App. Rep. S. Afr. Exp., 42 [Ichneumon ^h] [nv]) Trouess., 1897c, Cat. Mamm., Berolini, 334. So. #451 [Galerella] cauui, q. v.

#464 Herpestes ¹ fasciatus ^o Desm., 1823, Diet. Sci. nat., v. 29, 58. So. #455 Mungos fasciatus ^o, q. v.

#464 Herpestes flavidens Kelaart, 1852, Prodr. Fauna Zeyl., 44. Ceylon '; southern India? Yellow Mungoose, Ram-Moogatea. So. Herpestes fulvescens Blyth, 1851, J. Asiat. Soc. Bengal, 20, fide Trouess., 1897c, 336. Syn. flavideus °.

Haemaphysalis †869.—Ext. cuspidata.

#464 Herpestes ¹ galera (Erxl., 1777, Syst. Regn. Anim., v. 1, 453 [Mustela ¹])
 Hliger, 1815, Abh. ph.-Kl. K. pr. Ak. Wiss. (1804–1811), 79. Syn. Herpestes ¹ galea ³, lapsus for galera. So. #458 Atilax galera, q. v.

#461 Herpestes ¹ galera robustus (Gray, 1864, Proc. Zool. Soc. London, no. 35, 558 [Athylax ^c]) Thomas, 1882, Proc. Zool. Soc. London, no. 5, 72. E.

Africa. So. #458 Atilax galera robusta, q. v.

#464 Herpestes | gracilis Rueppell, 1836, Neue Wirbelth. Abyssin., v. 7, 29. So. #151 Galerella gracilis, q. v.

#464 Herpestes | gracilis badius (Smith, 1838, Illus. Zool. S. Afr. Mamur., pl. 4; Thomas, 1882, Proc. Zool. Soc. London, 68). So. #451 [Galerella] gracilis badius, q. v.

#464 Herpestes griscus of authors, from India. Mungos, indische Manguste. So. #464 Herpestes nyula, fide Allen, 1924, 160.

Gnathostoma †473.

[radula *.—Bombay.-So. spinigerum.]

#464 Herpestes [or Mangusta o, Mungos], Ursus] (Herpestes, Mungos]) ichueumon (Linn., 1758a, 43 [Viverra 1]) Hliger, 1811, Prodr. Syst. Mamm., Berelini, 135. Egyptian mongoose, Egyptian mungoose, Ichneumon, Mangouste, Pharaonsratte. Africa north of Sahara (Egypt t); Asia Minor; Palestine; S. Spain.

Babesia †173.—Blood.

herpetedis .-- Portugal t.-T. h.

Echinoceccus †322.

†granulosus.—Liver.

Tetrathyridium < †284a.

bailleti.—Syn. railleti ^m.

[elongatum h s.—Peritoneum.]

Filaria 1 †435.

species Sonsino, 1896m.—Subcut. connective tissue, lung.—Egypt.

Rictularia 459R.

proni.—Intest.—Bordj-Menaiel.

Spirocerca 468G.

sanguinolenta.

Spirura 468e.

gastrophila.—Esoph.

Syphacia †494.

†obvelata.—Stom.

Ixodes †866.—Ext.

†rasus.

Ctenocephalides †1639.—Ext. tcanis.

Felicola < †1099.—Ext.

inaequalis.—Rotterdam Zoo.—T. h.

Synosternus < †1634.—Ext.

†pallidus.—Egypt t.—T. h.

#464 Herpestes ichneumon funestus (Osgood, 1910, Field Mus. Nat. Hist., Zool. ser., v. 10 (3), April 7, 17 [Mungos 1]) Allen, 1924, Bul. Amer. Mus. Nat. Hist., April 11, v. 47, 174–175. British E. Africa (Naivasha ^t); German E. Africa.

> Ctenocephalides †1639.—Ext. †felis.—Brit. E. Africa.

#464 "Herpestes laticauda" m Parona, [1893a,] Catal. coll. elminth. del Parona, Geneve, 6. So. #462 Ichneumia albicauda, q. v.

#464 Herpestes | leucurus * Ehrenb., 1833, Symb. Phys., Mamm., dec. 2, pl. 12, 6 pp. So. #462 Ichneumia leucurus s, q. v.

#464 "Herpestes mungo" from "India." Cf. #455 Mungos mungo, Africa. Possibly a host confusion.

#464 Herpestes [or Calogale] nyula (Hodgson, 1836, J. Asiatic Soc. Bengal, v. 5, 236 [Mangusta]) Trouess., 1897c, Cat. Manm., 336.

#464 Herpestes pluto h Gray, 1864, Proc. Zool. Soc. London, no. 35, 552 [not Temm.]. Arabia. So. #462 Ichneumia albicauda, fide Thomas, 1882, 75, and Trouess., 1897c, 338.

#464 Herpestes pluto * Temminck, 1853, Esquisses Zool. Guiné, Mamm., pt. 1, Leiden, 95 [nv]. Guinea, Africa. So. #458 Atilax galera, fide Lydekker, 1896a, 253, Thomas, 1882, 73, and Trouess., 1897e, 335.

Felicola < †1099.—Ext.

subrostratus.--Cameroen.

#464 Herpestes [or Calogale *, Mungos 1] (Herpestes) pulverulentus Wagner, 1839, Münch. Gel. Anzeig., v. 9, 426 [nv]. East African mungoose, pepper and salt cat, small grey mungoose, Staub-Manguste, Grijse Muishond, ilitse, Neethaar. S. & W. Africa.

Echidnophaga †1633.—Ext.

larina.—Cape Colony.
Felicola <†1099.—Ext.

calogalcus.—Cape Province.

#464 Herpestes ¹ ratlamuchi (Smith, 1836, Rep. exped. explor. Central Afr., Cape Town, 42 [Ichneumon ^h ^o ratlamouchi] [nv]; Smith, 1837, Cat. S. Afr. Mus., 22 [Mangusta ¹ ratlamuchi] [nv]) Trouess., 1897c, Cat. Mamm., v. 1, 334. So. #451 [Galerella] ratlamuchi, q. v.

#464 Herpestes ¹ sanguineus Rueppell, 1836, Neue Wirbelth. Abyssin., (7), 27. Abu Wusie. Egypt. So. #451 Galerella sanguineus, q. v.

#464 Herpestes or Ichneumon h o species.

SARCOSPORIDIA †149.—Striated muscles.

[species Viljoen, 1921: Sarkosporidien.—S. Africa.]

Echinococcus †322.

†granulosus.

Tetrathyridium <†284a.

[*species Schwartz, 1927.—Larva in peritoneal cavity and lungs. Adult exp. in dogs and cats.—Washington, D. C.] Arthrocephalus 388d.

gambiensis.—London Zoo, from Gambia t.—African mongoose t. h.

Spirura 468e.

gastrophila.

Haemaphysalis †869.—Ext. †leachi.—Africa.

Metathrombium †964.—Ext. †poriceps.

Echidnophaga †1633.—Ext. †gallinacea.

Xenopsylla †1636.—Ext. erilli.—Africa.

- #464 **Herpestes** [or Mesobema ^t, Mungos ¹, Osmetectis ^t, Urva ^t] (Herpestes) **urva**Hodgson, 1836, J. Asiatic Soc. Bengal, v. 5, 238 [Gulo ¹]) Anderson, 1878,
 Anat. Zool. Res. Zool. Results Yunnan Exped., v. 1, 189. Crab-eating
 Mungoose, Arva, Urvá. Himalayas from Nepal ^t to Assam, Arakan, Burma,
 N. Tenasserim, and southern China.
- #465 (418). PROTELIDAE Flower, 1869, Proc. Zool. Soc. London, 37.—Toes 5 on front feet, 4 on hind feet; claws blunt. Cheek-teeth widely spaced, all alike and peg-like, jaws correspondingly weak; eats carrion and white ants; molars almost rudimentary; no functionalized sectorial molars; premolars 4/3-4, very small, simple in character, premolar 2 present or absent. Alisphenoid canal absent. See #466.
- #466. Proteles Geoffr., 1824, Bul. Sci. Soc. Philom., Paris, Sept., 139, tod. lalandii Geoffr., 1824, from Cape of Good Hope; 1824, Mém. Mus. Hist. nat., Paris, v. 11, 355, 370, mt. lalandii s Geoffr. so. tsd. (1900) cristatus Sparrman.—Aard-Wolf, Earth-Wolf, Erdwolf. Head short, broad; muzzle truncated; ears long, pointed. Body short; copious mane of long hair along mid line of neck and back, can be erected when animal is excited. Legs elongate, front longest; pollex short with a distinct claw; claws all strong, blunt, subcompressed, nonretractile. Tail short, bushy. Teeth 30 or 32 (i. 3/3, c. 1/1, p. and m. 4/3 or 4); molars very small, placed far apart, almost rudimentary in character; canines long and rather slender. Vertebrae: C. 7, D. 15, L. 5, S. 2, Cd. 24. Burrowing, nocturnal animal, feeding on decomposing animal substances, larvae and termites. Tropical and South Africa. Syn. Geocyon s Wagler, 1830, Natür. Syst. Amphib., 30, mt. lalandei Geoffr. so. (1904) cristata Sparr.

*466 Proteles cristatus (Sparrman, 1783, Resa till Goda Hopps Udden, Stock., v. 1, 581 [Viverra 1]) Blyth, 1839, The Analyst, v. 10 (28), July, 71. Aard Wolf, Earth Wolf, Grey Jackal, Wehr Wolf, Erdwolf, Zibethhyäne, Inci, Isingei, Maanhaar (i. e., Mane-hair) Jackal, Nadrou Jackal, Tuku. Somaliland through Central Africa to Cape Colony.

Dipylidium †308.—Small intest. †caninum.—S. Africa. Dipetalonema †453. dracunculoides.—Peritoneal cav.—S. Africa.—T. h.

Armillifer †796.—Encysted.
†armillatus.
†moniliformis i.—Larva.—Host i.
[protclis s.—Mesentery.—T. h.]
Pulex †1635.—Ext.
†irritans.—S. Africa.

#466 Proteles ^t [or Geocyon ^{o t}] lalandii ^s Geoffr., 1824, Bul. Sci. Soc. Philom., Paris, 139. Erdwolf, Zibethhyäne. Cape of Good Hope ^t, S. Africa. Syn. Geocyon ^{o t} lalandei ^e Wagler, 1830, Nat. Syst. Amphib., 30. So. #466 Proteles ^t cristatus.

#467 (409). Squamosal and exoecipital bones form with wall of entotympanic a mastoid air space which is posterior to tympanic chamber. See #468.

#468 (470). HYAENIDAE Flower, 1869, Proc. Zool. Soc. London, 28, 29, 35.— Condyloid and glenoid foramina concealed or wanting. Toes 4-4. Head large, slightly elongate; skull remarkable for great development of sagittal crest (serving for attachment of powerful temporal muscles); zygomatic arches very strong; auditory bulla inflated; paroccipital process distinct; alisphenoid canal and pterygoid fossa absent; palate extends back but a short distance behind posterior molars. Teeth: i. 3/3, e. 1/1, pm. 4/3, m. 1/1; well developed; upper carnassials particularly large, with 3 distinct lobes; lower carnassials with a large blade and a small talon; molar₂ very small. Dorsal vertebrae 15. Legs rather long; no entepicondylar foramen to humerus; claws slightly curved, strong, blunt, not retractile; hallux and pollex absent; tarsus and metatarsus entirely hairy; feet with median or plantar pad and one to each digit. Truly digitigrade. moderate. Anal sae present; preputial scent gland absent. India; Africa. Syn. Hyaenadae d Gray, 1821, London Med. Repos., v. 15, 302. See #469.

#469. Hyaena 139 Brisson, 1762, Regnum Animale, 168–169, 248, tat. hyaena Linn., from Africa, tsd. (1900) striata; or Brünn., 1772; or Zimmermann, 1780.— Hyaena, hyäne. Teeth 34, usually: i. 3/3, c. 1/1, pm. 4/3, m. 1/1; canines and premolars, especially, very large, strong, conical; upper carnassials with very large, distinctly trilobed blade and moderately developed inner tubercle placed at anterior extremity of blade; molars very small, placed transversely close to hinder edge of carnassial as in the felidae; lower carnassial (sectorial) consists of little more than the bilobed blade. Zygomatic arches very wide and strong; sagittal crest high (giving attachment to very powerful biting muscles); orbits incomplete behind. Vertebrae: C. 7, D. 15, L. 5, S. 4, Cd. 19. Legs, especially anterior pair, rather long; digitigrade, 4

¹⁹ The three existing species may be arranged into two subgenera, which, however, are bridged over by transitional fossil species. See #469.4.

^{#469}A (469B). **Hyaena** * Brisson, 1762, Regnum Animale, 168-169, 248, tat. hyaena Linn., Africa.—Striped hyaena. Euhyaenine group: Upper molar moderately developed and 3-rooted; lower molar with inner cusp and hind talon more or less developed. Ears large, pointed. Hair long, forming a mane on back and shoulders. Africa, Asia.

^{#469}B (469A). Crocotta Kaup, 1829, Ent. Geseh. u. Natürl. Syst. Europ. Thierwelt, v. 1, 74, 78, tat. crocuta.—Spotted hyaena. Crocutine group: Upper molar extremely small, 2- or 1-rooted, often deciduous; lower molar without trace of inner cusp, and with an extremely small talon. Africa south of Sahara. Syn. Crocuta bo Kaup, 1828, Oken's Isis, v. 21 (11), 1145, mt. tat. Hyaena crocuta Erxl. [not Crocuta Meigen, 1800, Diptera].

subequal toes on each foot; stout nonretractile claws; pollex and hallux represented only by rudimentary metacarpal and metatarsal bones. Tail rather short. Large post-anal median glandular pouch, into which largely developed anal seent glands discharge. South Asia; Africa. Syn. Hyena • Zimmermann, 1780, Geogr. Gesch., Leipzig, v. 2, 256.

#469 **Hyaena** [or Crocuta h] (**Hyaena**) brunnea Thunberg, 1820, K. Vetensk. Acad. Handl. Stockholm, v. 1, 59. Brown Hyaena, Strand Wolf, Strandwolf,

Incuka, Strand Jut. Kalahari, S. W. Africa; Western Rhodesia.

Taenia † †325.—Intest. hyaenae.—Pretoria, S. Africa t.—T. h.

#469 **Hyaena** ¹ [or Crocuta ^h] (**Crocotta**) **crocuta** (Erxl., 1777, Syst. Regn. Anim., 578 [Canis ¹]) Boddaert, 1785, Elench. Anim., Rott., 94. Cave Hyaenas, Laughing Hyaena, Spotted Hyaena, Tiger wolf, hyène tachetée, gefleckte Hyäne, gefleckte Hyene, Tiegerwolf, Fisi, Impisi, Isadawane, Kurri, Kuzupa, Phiri, Tijger Wolf, Waraba. Africa, south of Sahara. Syn. Hyena crocata ^c ^c Zimmermann, 1780, Geogr. Gesch., Leipzig, v. 2, 256.

Hepatozoon < †165.—Blood.

canis.—Senegal.

chattoni ^{i s}.—Upper Senegal and Niger ^t.—So. ⁱ Hepatozoon canis, fide Wenyon, 1926a, 1091.—T. h.

[rotundata hyenae-crocutae s.—So.i Hepatozoon canis.—Syn. hyenaecroculae m.—T. h.]

Trypanosoma †94.—Blood.

†brucei.—Africa.

congolense.—Reservoir.

 $\dagger gambiense.$

Dipetalonema †453.

dracunculoides.—Periton. cav., mesentery.—Bamako, Africa.

Dirofilaria 449A.

repens.

Filaria ¹ †435.

species Leger, 1911.—Blood.

Haemaphysalis †869.—Ext.

 $\dagger leachi.$

Echidnophaga †1633.—Ext.

larina.—Daroli, Abyssinia.

#469 **Hyaena** (**Hyaena**) **hyaena** (Linn., 1758a, 40 [Canis ¹]) Desmarest, 1804, Nouv. Diet. Hist. nat., tab. 24, 18. Tarras. Benna Mountains ^t, Laristan, S. Persia.

Macracanthorhynchus †508. †hirudinaceus.—Intest.

Amblyomma †881.—Ext.

sublaeve.—Siam t.

 $\textbf{Haemaphysalis} \ \dagger 869. \\ --\text{Ext.}$

 $bispinos a\ intermedia. — India.$

Arctopsylla < †1626.—Ext. hyaenae.—Caucasus.

Synosternus <†1634.—Ext.

†pallidus.—Egyptian Sudan.

[witherbyi *.—Africa.]

#469 **Hyaena** ¹ [or Croeuta ¹] **maculata** Thunberg, 1811, Mém. Acad. Imp. Sci. St. Petersb., v. 3, 302.

Taenia ^r †325.—Intest.

species Baer, 1923.—Sudan.

#469 Hyaena species.

Multiceps †324.

†scrialis.—Ngoa, Northeastern Rhodesia.—Spotted leopard.

Dirofilaria 449A.

sudanensis.—Subcut.

Caparinia †944b.—Ext.

hyenae o.

sclifera.

Rhipicephalus †875.—Ext. shipleyi.—T. h.

Sarcoptes †942.—Ext.

†leonis.

Echidnophaga †1633.—Ext. tarda.—Abyssinia^t.

#469 Hyaena 1 (Hyaena) striata 2 (Zimm., 1780, Geog. Gesch., v. 2, 256 [Hyena d]) Leunis, 1883a, Synop. Thierkunde, v. 1, 187. Striped hyaena, hyène rayée, gestreifte Hyäne, gestreifte Hyene, Aptar, bagha Lakra, Cherak, Chirak, Derko-tud, Dhopre, Dumul-gundu, Harvagh, Hebar-kula, Hondar, Jhirak, Kalu-thai-korachi, Kirba, Korna-gundu, Kut-kirba, Lakar-bagha, Lakha-bagh, Lidder, Renhra, Taras. Ranges over greater portion of Indian peninsula and thence westward through S. W. Asia, including Bokhara and Arabia, to Caucasus and North and East Africa. So. hyaena, fide Trouess., 1904c, 244; Thomas, 1911, 134.

Dipylidium †308.—Intest. †caninum.—Calcutta Zoo, India. Chlamydonema †469d. malayense.—Nigeria.—Host i. Macracanthorhynchus †508.—Intest. †gigas s.

†hirudinaceus.
Rhipicephalus †875.—Ext.
†pulchellus.

Arctopsylla < †1626.—Ext. hyacnae.—Transcaucasia; Persia. [striatus °.—Transcaucasia; Persia.] Ctenocephalides †1639.—Ext.
†canis.
[†serraticeps °.]
Gasterophilus †1572.
equi d s of Clark.—Larvae in stom.
Synosternus <†1634.—Ext.
somalicus.—Africa.

Xenopsylla †1636.—Ext. brasiliensis.

#469 Hyaena ¹ (Hyaena) vulgaris ^o Desmarest, 1820, Mamm., Paris, pt. 1, 215, renaming of hyaena. Africa; Asia. So. #469 Hyaena (Hyaena) hyaena, q. v.

#470 (68). CANIDAE 40 Gray, 1821, London Med. Repos., v. 15, 301.—Dogs, wolves, jackals, foxes. Condyloid and glenoid foramina present. Toes 5 on front feet (except Lycaon which has 4), 4 on hind feet (except some domesticated dogs which have 5). Tympanic bulla large, in contact with paroccipital process, without septum. Alisphenoid canal present. Teeth 38 to 44, exceptionally to 48, generally 42: i. 3/3, c. 1/1, pm. 4/4, m. (variable) 1 to

As a result of these various factors, the natural tendency is to use the genus Canis in a very broad sense and, except for outstanding groups, to reduce to subgeneric status the numerous genera recognized by some authors. In adopting this conservative plan, we are not only conforming to precedent of very well known mammalogists but are at the same time reducing the difficulties for the parasitologists.

The preferred restricted generic or subgeneric name, in addition to Canis!, will be placed in heavy type under Canis!.

⁴⁰ There are certain major difficulties involved in the classification of the genera and species of this family Among these may be noted the following:

^{1.} As in many other groups, authors have frequently proposed genera without designation of genotypes. This has resulted in later confusion.

^{2.} The genus Canis has for its type C. familiaris, of Europe, but domesticated dogs the world over are classified more or less generally as belonging to this species. Except for the teeth, domesticated dogs vary so extensively in characters that if an attempt is made to compare them systematically with the wild species, one encounters difficulties. Gray (1868, 494) made a suggestion to meet this situation, namely, he confined the genus Canis to the domesticated dogs, recognizing (pp. 508-509) four species (familiaris, ceylanicus, tetradactyla, and dingo). By this plan Gray avoided considerable difficulty, but despite the practical nature of his proposition it has not appealed to authors generally, doubtless because its practical aspect is not supported by scientific data as interpreted by specialists in the group.

^{3.} Generic and subgeneric characters in this family have been based to a considerable extent on details of skull structure, and these are not always easily recognized externally. Accordingly, although the specialist goes into details in working ont his classification, the average zoologist would be less likely to do so in making a determination.

^{4.} Many of the anatomical data used in classification are comparative in nature (as Genus A, with canine teeth longer [or broader] than in the Genus B; or some similar expression), rather than a direct presence or absence or regional location, of a character. Not only is the mental reaction to characters of this nature rather unfavorable among zoologists who are accustomed to dealing with animals of soft tissue (hence subject to extreme contraction), but unless specimens of both A and B are present for comparison, the character of "longer" or "broader" loses in value.

4/1 to 4; larger check-teeth of a combined trenchant and crushing type; last upper premolar and 1st lower molar strongly differentiated as earnassials. the former 3-rooted, its inner lobe in front of middle of crown, its position, somewhat posterior to level of anteorbital foramen, at point of greatest mechanical efficiency. Body usually rather light; size moderate; legs long. feet digitigrade; claws exserted, blunt, nonretractile. Os penis grooved. Essentially cosmopolitan; in Europe west to Ireland.

Lupine or Thooid series as of Flower & Lydekker, 1891a, 548, and Lydekker, 1911, Encycl. brit., v. 5, 371.—Wolf-like. Dogs, wolves, jackals. Pupils usually circular when contracted; in Pseudalopex elliptical when contracted. Postorbital process of frontal bone regularly smooth and convex above, its extremity bent downward; frontal air sinuses present; skull generally thick and solid. Essentially subgenus Lupina as of Leunis, 1883a. 188; section Lupinae Burmeister, as of Gray, 1868, 495. See #472.

#472 (474). Subf. Lycaoninae · Gray, 1868, Proc. Zool. Soc. London, 494, 495 (LYCAONINA).—Cape Hunting dog. Toes 4-4. Head short, broad; nose short, broad; teeth large, close together; palate very broad, short.

short, straight, bushy. Contains one genus. See #473.

#473. Lycaon 41 Brookes in Griffith's Cuvier, 1827, Anim. Kingd., v. 5, 151, mt. Canis 1 tricolor Brookes so. Hyaena 1 picta Temm.—Hunting dog, Hyaena Teeth 42; massive and (in cross section) rounded; premolars acutely dentated on the front, and especially on the hinder edge; upper carnassials strong, elongate, trigonal, broad, with small but well-marked interior lobe in front; upper tubercular tooth 1 large, with a broad rounded internal lobe; upper tubercular tooth 2 oblong transverse, much smaller; lower hinder tubercular very small, cylindrical. Skull short, broad; nose short, broad, swollen; palate short, very broad; internal nasal opening broad; postorbital process thick, convex above, bent down at end. Africa.

#473 Lycaon capensis.

Echinococcus †322.

granulosus.—London Zoo, from S. Africa. longimanubrius.—S. Africa t.—T. h. species Chapin, 1921.—Zoo, Washington, D. C.

#473 Lycaon to [or Canis 1, Cynhyaena o, Cynhyoena o, Hyenoides o, Kynos o] (Lupina 1) pictus (Temm., 1820, Ann. Gén. Sei. Phys., v. 3, Jan., 54 [Hyaena 1]) Smith, 1833, S. Afr. Quart. J., v. 2, no. 1 (3), Dec., 91. Burchell's Lyeaon, Cape hunting-dog, Hyaena dog, bunter Hund, buntfarbige Hund, gefleckter Hund, Hyänenhund, Hyänenwolf, Jagdhyäne, seheckige Hyänenwolf, Simr, Budaja, Inkentshana, Inkentshani, Inkentyane, Ixwili, Letlhalérwa, Matshabidi, Wilde-Hond, Wilde Honde. South and east Africa.

⁴¹ Syns.: Cynhyaena o Cuv., 1829, Dict. Sci. nat., v. 59, 454, mt. picta Temm.;

Cynohyaena • • Blainville, "1840", Ostéog. Mamm. Récents et Foss., v. 2, 43;

Cynohyoena oo Blainville, 1837, Ann. Sci. nat., Paris, 2d scr., v. 8, Zool., 279;

Cynus · Agassiz, 1846, Nomenclator Zool., Index Univ., 113, for Kynos;

Hyenoides · Boitard, "1842", Jardin Plantes, Mamm., 163-164, mt. picta Temm., syn. venatica Broocks, syn. tricotor Griff.; Boitard in Orbigny, "1843", Diet. Univ. Hist. nat., Paris, v. 3, 566, mt. picta, syn. venatica Burch. & Brooks;

Kynos o Rüppell, 1842, Mus. Senckenberg., Frankfurt a. M., v. 3 (2), 163, mt. pictus, Africa.

CESTODA †283.

[species Ratcliffe, 1930.—"Cape hunting dog."]

Echinococcus †322.—Small intest. †granulosus.—S. Africa.

Taenia (Taenia) †325b.

†hydatigena.—"Lae Rodolphe", Africa.

†pisiformis.—Stomach, small intest.—Zoo, Washington, D. C.

Toxascaris †486.—Small intest.

leonina.—Phila. Zoo.

†*limbata.—Washington i, D. C.

Toxocara †484.—Intest.

†mystax º.

Amblyomma †881.—Ext.

†hebraeum.

[poortmani *.—Cape of Good Hope '.—T. h.]

Rhipicephalus †875.—Ext.

†appendiculatus.

†simus.

#473 Lycaon pictus venaticus, apparently for #473 Lycaon pictus syn. venaticus °.

#473 Lycaon venaticus · Gray, 1868, Proc. Zool. Soc. London, 497, substitute for pictus Temm. So. #473 Lycaon pictus, q. v.

#474 (472). Toes 5-4. Head more or less elongate; nose tapering; teeth moderate; palate elongate. [=canina | Gray, 1868, Proc. Zool. Soc. London, 494, 497.] See #475.

#475 (478). CUONINAE as of Miller, 1924a, 155.—Teeth 38 to 40; heel of sectorial tooth with single compressed cutting cusp. Head short. Toes 5-4. See #476.

²476 (477). Cuon ⁴² Hodgson, 1838, Ann. Nat. Hist., London, v. 1 (2), Apr., 152, mt. tod. primaevus Hodgson, from Nepal, so. (1888) dukhunensis Sykes, 1831.—Dholes or wild dogs of Asia. Teeth 40: i. 3/3, c. 1/1, pm. 4/4, m. 2/2; heel of lower carnassial with single compressed cutting cusp; skull short; facial profile slightly convex; nasals elongate; pupil circular. Mammae 12 or 14. Long hair between footpads. Color uniform. Wolflike. Central Asia

#476 Cuon [or Chryseus o, Cyon o, Primoceus t] dukhunensis (Sykes, 1831, Proc. Zool. Soc. London, (8), Aug., 100 [Canis t]) Gray, 1843, List Mamm. Coll. Brit. Mus., 57. Indian wild dog, southern Dhole, Adavi-Kútá, Bankutta, Bhansa, Bhaosa, Bhúnsa, Buánsú, Chennai, Eram-naiko, Hazí, Jangli, Jungli Kutta, Kennai, Kolasna, Kolasra, Kolsa, Kolsum, Paoho, Phará, Rám-Hun, Rám-kutta, Reza-Kútá, Sa-túm, Shin-nai, Siddaki, Son-kutta, Tani, Vatai-karau. "Dukkun" t; Upper Indus valley; eastern Tibet, throughout Himalayan forests from Kashmir to Assam forests of India. Var. of javanicus, fide Trouess., 1897c, 513; so. javanicus, fide Mivart, 1890, 179.

Babesia †173.—Blood.

canis.

species Plimmer, 1915.—London Zoo, from India.—Possibly *B. gibsoni*, fide Wenyon, 1926*a*, 1021. Hepatozoon < †165.—Blood. eanis.—India.

Ancylostoma †387.—Intest.

†caninum.—India.

tecylanicum.

Chryseus . Ham. Smith, 1839, Jardine's Nat. Lib., v. 9, 167, tod. primaevus Hodgson;

Cyon o Agassiz, 1846, Nomenclator Zool., Index Univ., 113;

Kuon ^m Agassiz, 1846, Nomenclator Zool., Index Univ., 113;

Primaevus o "Lesson" Gray, 1843, List Spec. Mamm. Brit. Mus , pp. xx, 212;

Primocvus o Hodgson, 1842, Lesson's Nouv. Tableau Règne Anim., Mamm., 39, mt. buansu Lesson syn. primoevus Hodgson, syn. dukhunensis Sykes.

⁴² Syns.: Chrysaeus o Blanford, 1888, Fauna Brit. Ind., Mamm., 142, 606;

Spirocerca 468G. sanguinolenta.—India. Haemaphysalis †869.—Ext. bispinosa.

bispinosa intermedia.—India. †leachi •.—India.

Trichodectes †1100.—Ext. forficula.—India.

#476 Cuon t [or Chryseus o] primaevus t (Hodgson, 1832, J. Asiatic Soc. Bengal, v. 1, 342 [Canis 1]) Hodgson, 1838, Ann. Mag. Nat. Hist., v. 1 (2), Apr., 152. Buansu. Nepal ^t. So. #476 Cuon dukhunensis, fide Blanford, 1888, 143.

#477 (476). Icticyon 43 Lund, 1843, Oversigt K. danske Vidensk. Selsk. Forhandl., Kjöbenhavn, for 1842, no. 6, 80, mt. venaticus Lund, 1842.— Guiana bush dog. Teeth 38: premolars 4/4; molars 1/2, rarely 2/2 or 1/1, comparatively small; lower carnassial characterized by loss of inner cusp or blade, and by the secant form of its hind talon. Head short, broad. Haif short. Legs short. Tail short. South America.

#477 Icticyon [or Speothos *] venaticus (Lund, 1842, K. danske Vidensk. Selsk. Nat. Math. Afhandl., Kjöbenhavn, v. 9, 203 [Cynogale h o]) Lund, 1843, Oversigt K. danske Vidensk. Selsk. Forhandl., Kjöbenhavn, for 1842, no. 6, 80. Bush dog, Cachorro do matto. Brazil; Guiana. Syn. Speothos vinaticus ^m Jordan & Rothschild, 1908, Parasitol., v. 1 (1), 73.

Amblyomma †881.—Ext. †ovale.

Ixodes †866.—Ext. boliviensis.—Bolivia ^t.

Rhopalopsyllus †1635A.—Ext. australis tupinus.—Bolivia t.—T. h. †lugubris.—Bolivia t.—T. h.

#478 (475). Caninae 44 Gill, 1872a, Nov., 5, 63.—Dogs, wolves, foxes. Teeth usually 42 (rarely to 48): i. 3/3, c. 1/1, pm. 4/4, m. 2 to 4/3 to 4. Toes 5 on front feet, 4 on hind feet. See #479.

43 Syns.: Abathmodon • Lund, 1843, Oversigt K. danske Vidensk. Selsk. Forhandl., Kjöbenhavn, for 1842, no. 6, 80, fossil teeth;

Cynalicus • Gray, 1846, Ann. Mag. Nat. Hist., ser. 1, v. 17 (112), Apr., 293, mt. melanogaster Gray so. (1904) venaticus Lund, Brazil;

Cynalius e Gray, 1847, List Osteol. Spec. Brit. Mus., pp. x, 18;

Cynalycus - Gray, 1869, Cat. Carniv. Pachy. Edent. Mamm., Brit. Mus., 183;

Cynogalc h o Lund, 1842, K. danske Vidensk. Selsk. Nat. Math. Afhandl., Kjöbenhavn, v. 9, 203, mt venatica Lund, 1842 [not #430b Cynogale Gray, 1837, VIVERRIDAE];

Ictidocyon o Agassiz, 1846, Nomenclator Zool., Index Univ., 194;

Melictes m Gray, 1868, Proc. Zool. Soc. London, 498;

Melictis · Schinz, 1848, Rev. Zool., Paris, June, 177, mt. beskii Schinz, Brazil;

Speothos . Lund, 1839, Ann. Sci. nat., Paris, 2d ser., v. 11, 224, 232, mt. pacivorus Lund, fossil, Brazil.

44 Gray (1868, 494, 495) distinguished wolves, dogs, and fox-tailed wolves as follows:

b. Subf. canina.—Head more or less elongate; nose tapering Teeth moderate. Palato elongate. See c. c (d; e). Wolves.—Tail short, straight, bushy. Skull elongate. Old World and America. Contains, Icticyon, Cuon, Lupus, Simenia, Chrysocyon.

d (c; e). Caninia Gray, 1868, 495.—Dogs. Tail elongate, bent or curled to left. Skull short or elongate. One genus, Canis.

e (c; d). Fox-tailed wolves.—Tail elongate, straight, hairy. South America. Contains, Lycalopex, Pseudalonex.

If one works only with European forms, it is not so difficult to define a wolf, a dog, and a fox. But taking the world's fauna into consideration, this is more difficult.

#479 (480). Canis ¹⁴⁵ Linn., 1758a, 38, tat. familiaris syn. canis Gesner, tsd. (1901) lupus.—Includes dogs, wolves, foxes, wild and domesticated. Teeth 42: i. 3/3, c. 1/1, pm. 4/4, m. 2/3. Cecum generally coiled, contorted.

It is to be recalled that the generic name *Canis* has been used by different authors in different senses varying from the exceedingly broad concept of Linné, 1758a, to the exceedingly restricted concept of Gray, 1868.

Syns.: Chaon * Ham Smith, 1839, Jardine's Nat. Lib., v. 9, 129, tpd. 1st sp. vulgaris so. lupus Linn.; Dysodus i * Cope, 1879, Proc. Acad. Nat. Sci., Phila., Aug 12-Nov. 4, 479, mt. pravus, Japanese sleeve dog;

Lupus * Oken, 1816, Lehrb. Naturg., 3 Th., Zool., Abt. 2, 1039-1040, tat. C. lupus Linn. syn. L. rulgaris, from Enrope; Gray, 1868, Proc. Zool. Soc. Londou, 494, 501-504, tat. C. lupus Linn. syn. L. rulgaris Brisson;

Synagodus i Cope, 1879, Proc. Acad. Nat. Sci., Phila., Aug. 12-Nov. 4, 179, 186, int. mansuetus, lap dog.

#479D(C). Thos Oken, 1816. Lehrb. Naturg., Zool., Th. 3, Abt. 2, 1037, tsd. (1914; 1924) vulgaris Oken so. Canis aureus Linn.—Coyotes, jaekals, small prairie wolves, Sehakale. Canine teeth long, slender, Vulpes-like; outer incisors small, carnassials small; upper molars with well-marked eingulum; pm 4 with minute extra cusp on hind border. Teeth 42, with same formula as $Canis \ r$.

Syns.: Dieba · Gray, 1869, Cat. Carn. Edent. Mamm. Brit. Mus., 180, 189, mt. anthus Cuv.;

Jaealius ^m Bourguignat, 1875, Ann. Sei. Géol., Paris, v. 6 (6), 16, footnote, for *Sacalius*; *Luputus* Blainville, 1830, Mamm. [nv];

Lupulus i Blainville, "1843", Ostéog. Mamm. récents et foss., v. 2 (13), 30-32 (eites cancrivorus, brachyteles, brachyotos or procyonoides); Gervais, 1855, Hist. nat. Mamm., 60-62;

Lyciscus * Ham. Smith, 1839, Jardine's Nat. Lib., v. 9, 160, tsd. (1912) 1st sp. latrans Say, Nebraska*; Neocyon * Gray, 1868, Proc. Zool. Soc. London, 506, mt. latrans Say, Nebraska t;

Oxygoüs • Hodgson, 1841, Calcutta J. Nat. Hist., v. 2 (6), July, 213, mt. indicus Hodgson so. (1904)
Canis aureus indicus, from Nepal, India;

Proamphicyon • Hatcher, 1902, Mem. Carnegie Mus., v. 1 (2), Sept., 95, mt. tod. nebrascensis Hatcher, Nebraska t, fossil;

Sacalius · Ham. Smith, 1839, Jardine's Nat. Lib., v. 9, 206, tod. aurcus Linn., Europe ; Saccalius · Grevé, 1894, Nova Acta Leop., Halle, 119;

Thous * Ham. Smith, 1839, Jardine's Nat. Lib., v. 9, 193, tod. anthus Cuv., from Egypt;

Vulpicanis • Blainville, 1837, Ann. Sei. nat., Paris, 2d ser., Zool., v. 8, Nov., 279, mt. aureus Linn. #479E(B). Nyctereutes Temminek, 1838–1839, Hoeven's Tijdsehrift Natuur. Gesehied. Physiol., v. 5 (4), [post Oct. 11, 1838] 285, tsd. (1904) procyonoides Gray so. viverrinus Temm., China and Japan.—Raeeoon dog. Confined to Asia. Fur loose, long; tail short, straight, bushy; ears short. Upper earnassials eompressed, 3-lobed, with a small anterior internal lobe. Syn. Nyctoraetes m Jäger, 1850, Nova Acta Acad. Leop., Halle, v. 22 (2), 772.

#479F(A). Confined to South America. See #479G.

#479G (479II). Chrysocyon Ham. Smith, 1839, Jardine's Nat. Lib., v. 9, 241, mt. jubatus, S. America.—Aguara wolves. Legs long; distal articulations of metaearpals and metatarsals abnormal. Tail sbort, reaching only to hocks. Cervical mane short; coronal sagittal erest single, linear. Head very long; nose slender, very long; skull clongate; postorbital process thick, convex above, bent down at tip; temporal muscles separated by a narrow, linear, central ridge; pupil circular; teeth 42; premolars approximate, large; upper carnassials moderate, in same line as other teeth; internal palate narrow.

#47911 (479G). Legs not especially long; distal articulations of metaearpals and metatarsals normal. Tail long, extending below the hoeks. Angular process of mandible low and narrow; lower margin of mandible convex, not provided with sub-angular process. See #4791 to N. as revised by Cabrera, 1931.

#4791 (479J). Lycalopex Burmeister, 1854, Syst. Uebers. Thiere Bras., Th. 1, 95, tsd. (1914; 1931) Canis retulus Lund, 1842, (1930 a) magellanicus Gray.—Small-toothed dogs. Muzzle short; facio-eephalie index (fide Cabrera, 1931, 57, = distance from posterior end of nasal to incisor alveoli×100, divided by basal length) about 45; carnussials small; length of pm 4 bardly greater than length of m 1; length of m 1 about equals length of m 2+m 1; upper molars subquadrate, very little extended transversely. S. America. Syns. (fide Cabrera, 1931, J. Mamm., v. 12 (1), 57):

Eunothocyon • Allen, 1905, Reports Princeton Univ. Exp. Patagonia 1896-1899, v. 3 (1), 152, tod. Canis sladeni Thomas, 1903, so. (1911; 1931) Canis vetulus Lund, 1842;

Nothocyon * Wortman & Matthew, 1900 (for 1899), Bul. Amer. Mus. Nat. Hist., v. 12, Feb., 124 (type cither urostictus or parvidens) [not Nothocyon h Matthew, 1900 (for 1899), 20, 62, nomen nudum ,tsd. (1902) geismarianus, fossil dog].

^{45 #479.4 (}F). Not confined to South America. See #479B.

^{#479}B(E). Not confined to Asia; pupils circular. See #479C.

^{#479}C (D). *Canis* Linn., 1758a, 38, tat. familiaris syn. canis.—Dogs and wolves proper. Canine teeth thick, broad, short; outer incisors greatly enlarged, more than twice the size of inner incisors, being somewhat hyena-like in this respect; carnassials large; upper molars without definite eingulum; pm 4 without 3d cusp on posterior border. Head [elongate] moderate; nose broad. Temporal muscle separated by a narrow linear central ridge. Tail elongate, bent, or curled. Africa; America; Asia; Europe.

For the purpose of this catalog we follow Miller, Cabrera, Lydekker, and Flower & Lydekker as closely as feasible, using *Canis* in a rather broad sense and dividing it into subgenera.

Authors are not entirely in accord in regard to the subgenera of *Canis*, and it is difficult to key these groups unless one uses the factor of geographic distribution. Provisionally, for the purpose of this Host-Catalog, and pending further anatomical comparisons by mammalogists, *Canis* may be divided into the following groups (subgenera or genera, according to subjective views as to subgeneric vs. generic values). See #479A.

#479 Canis ¹ [or Vulpes ¹] (Lupulus [,#479D Thos ^b]) adustus Sundevall, 1846, Öfvers. K. Vet. Ac. Förhandl., v. 3 (5), 121. The Side-striped Jackal. Africa.

Babesia †173.—Blood.

rossi.—Spleen, liver.—Cambridge ^t, from Brit. E. Africa.—T. h.

Hepatozoon < †165.—Blood.

canis.

canis-adusti.—Cambridge ^t, from Brit. E. Africa.—T. h.

Microfilaria †432.—Blood. species Scott, 1928.—London Zoo. Haemaphysalis †869.—Ext. †leachi.—Africa.

#479J (479I). Muzzle long; facio-cephalic index 50 or more. Carnassials large; length of pm 4 always much greater than length of m 1; length of m 1 always greater than length of m 2+m 3; upper molars much extended transversely. See #479K.

#479K (479L). **Dusicyon** Ham. Smith, 1839, Jardine's Nat. Lib., v. 9, 248, tsd. (1914; 1931) Canis antarcticus Bechstein so. (1931) C. vulpes australis Kerr.—Falkland dogs. Tail shorter, white tipped, its length rather less than twice that of hind foot. Pm 4 with protocone drawn backwards, facing middle of main cusp; m₁ with metaconid placed conspicuously low, almost at level with cusps of talonid. Falkland Ids.

Syns.: Dasieyon ^m Trouess., 1897c, Cat. Mamm., new ed., fasc. 2, 299; Dusocyon Bourguignat. 1875, Ann. Sci. Géol., Paris, v. 6 (6), 24, 29; Dysicyon ^o Agassiz, 1846, Nomenclator Zool., Index Univ., 132.

#479L (479K). Tail dark tipped, long, always more than twice as long as hind foot. Pm 4 with protocone-drawn forwards, facing anterior base of main cusp; m 1 with metaconid placed high, its point almost on level with paraconid. See #479M.

#479M (479N). Ccrdocyon Ham. Smith, 1839, Jardine's Nat. Lib., v. 9, 259, tsd. (1914) brasiliensis Wied, 1821, syn. (1931) azarae Wied, 1824, tsd. (1931) Canis azarae Wied, of eastern Brazil, tsd. a (1930) magellanicus Gray.—Aguara foxes, crab-eating dogs. Feet with digital and plantar pads very large; interdigital webs slightly extensible; claws short. Forehead high, upper contour of braincase forming a conspicuous angle with facial profile; molar with masseteric ridge of malar vory near lower edge; mandible with condyle drawn upwards and angle very broad vertically. S. America.

Syns.: Carcinocyon Allen, 1905, Reports Princeton Univ. Exp. Patagonia 1896-1899, v. 3 (1), 153, 162, tod. Canis thous Linn. syn. Canis cancrivorus Desm.;

Cercodocyon - Allen, 1905, ibidem, 154;

Thous he Gray, 1868, Proc. Zool. Soc. London, 494, 514, tsd. by renaming (1905) cancrivorus Desm. so. thous Linn. [not #479D Thous Ham. Smith, 1839, tod. anthus Cuv., jackal from Africa].

#479N (479M). Pseudalopex Burmeister, 1856, Erlaüt. Faun. Bras., 24, 44, tsd. (1914; 1930; 1931) Canis magellanicus Gray, of southern Patagonia.—Culpeos and South American foxes. Feet with digital and plantar pads small; interdigital webs very extensible; claws long and slender. Forehead low, depressed, upper contour of braincase almost in line with profile of face; malar with masseteric ridge near the middle; mandible with condyle drawn backwards and angle slender.

Syns. (fide Cabrera, 1931, J. Mamm., v. 12 (1), 62):

Angusticeps • Hilzheimer, 1906, Zool. Anzeig., v. 30 (5), Apr. 17, 114, tod. reissii Hilzheimer;

Microcyon • Trouess., 1906, C.r. Acad. Sci. Paris, v. 143 (26), 1186, mt. tod. Speothos riveti Trouess., 1906, from Alchipichi ^t, Province of Pichincha, Ecuador, so. (1931) Pseudalopex culpaeus reissii Hilzheimer;

Pseudolycos & Philippi, 1903, Arch. Naturg., Berlin, v. 1 (1), 157;

Viverriceps d b Hilzheimer, 1906, Zool. Anzeig., v. 30 (5), Apr. 17, 116, lapsus for Angusticeps [not #413t Viverriceps Gray, 1867, 268, FELIDAE].

#479 Canis 1 aigericus.

Spirura 468 c. gastrophila.

#479 Canis 1 americanus. =?

Dioctophyme †426. †gigas *.

#479 Canis ¹ [or *Dieba* ^t, Lupus ¹, *Thous* ^t] (Lupulus ¹, #479*D* Thos ^r) anthus Cuv. in Geoffr. & Cuv., 1820, Hist. Nat. Mammal., v. 1 (17), June, 3. Morocco jackal, North-African Jackal, Chacal d'Alger. N. W. Africa.

Haemaphysalis †869.—Ext. †lcachi e.—Host i. Rhipicephalus $\dagger 875.$ —Ext. $\dagger sanguincus$.

#479 Canis | aquaticus [?(Liun., 1758a, 39)] Jauffret, 1800, Zoograph., 16.

Dipylidium †308. [prismatica s.]

#479 Canis ¹ [vulpes] atlantica Wagner, 1841, Reis. Regentsch. Algier, v. 3, 31 [nv]. So. #485 Vulpes vulpes atlantica, q. v.

#479 Canis ¹ [or Leucocyon ¹, Lupus ¹, Sacalius ^o ^t, Sacalius ^m] (Lupina ¹, Lupulus, Lyciscus ^s, Sacalius ^o ^t, #479D Thos ^b ^t, Vulpicanis ^o ^t) aureus Linn., 1758a, 40. Common jackal, Indian jackal, gemeine Schakal, Schakal, Amu, Chacal, Chota-Bagh, Gidár, Hian, Hijai, Hiyál, Hokol, Ihigal, Joksat, Kalla-Nari, Karaken, Karincha, Kocla, Kolá, Kolial, Laraiya, Meshrong, Mye-khwe, Nakka, Nari, Naria, Nerka, Phiál, Sháaj, Shál, Shiál, Shigal, Siyál, Strigala, Tolágh. Persia ^t; Africa; Asia; Asia Minor; Europe.

Babesia †173.—Blood.

canis.—Exp.

gibsoni.

rossi.

Hepatozoon < †165.—Blood.

canis.

 $[rotundata\ canis-aurei\ ^{\circ}.--So.^{\sharp}<\dagger 165$

Hepatozoon canis.—T. h.]

[rotundata canis-familiaris s.—So.; < †165 Hepatozoon canis.]

Trichomonas †131.

[canis-aurei e [auri m].—Cecum.— Calcutta t, India.—T. h.]

Diphyllobothrium †295.

†mansoni.—Subcutaneous.

serratum *.

Dipylidium †308.—Intest.

 $\dagger caninum.$

cucumerinum .

Echinococcus †322.—Intest.

†echinococcus *.

 $\dagger granulosus.$

Mesocestoides <†299.—Intest.

lineatus.

litteratus.

Multiceps †324.—Intest.

†multiceps.—Calcutta Zoo.

Taenia r †325.

balaniceps.—London Zoo, from India.

Taenia (Taenia) †325b.—Intest.

†pisiformis.—Calcutta, India.

serrata s of Authors.—So. pisiformis.

Ancylostoma †387.—Intest.

†caninum.—India.

Dracunculus †439.

†medincnsis.—Trieste.

Rictularia 459R.

affinis.

Spirocerca 468G.

sanguinolenta.

Toxascaris †486.

†limbata s.

Toxocara †484.—Intest.

†canis.

[canis-aurci s.]

[marginata o.]

[mistax m.]

mystax °.

Macracanthorhynchus †508.

†hirundinaceus m.

Oncicola †5010.

*eanis.—Texas.

Prosthenorchis †501p.

pachycanthus.—Intest. spirula.

Amblyomma †881.—Ext.

†variegatum.

Haemaphysalis †869.—Ext.

bispinosa.

leachi indica.—Calcutta.—T. h.

†leachi c.—India.

parva.—Cevlon.—T. h.

Ixodes †866.—Ext.

†bicornis.

Rhipicephalus †875.—Ext.

†sanguineus.—India.

†simus.

Pulex †1635.—Ext.

†irritans.—Asia Minor.

#479 Canis ¹ [(#479*D* Thos ^r)] aureus dalmatinus ^s Wagner, 1841, Schreber's Säugthiere, Suppl., v. 2, 383. Dalmatia ^t. So. #479 Canis aureus, fide Miller, 1912, 315.

Dipylidium †308.—Intest.

†eaninum.

cucumerinum 8.

#479 Canis [or #479M Cerdocyon t, Lycalopex l, Pseudalopex l, Thous h, Vulpes l] azarae.

Wied, 1824, Abbild. Naturg. Bras., (6). Crab-eating

dog of Brazil. So. #479 Canis thous azarae, q. v.

Of Authors [not Wied]. Agüarachai of Azara, Aguarachay, Azara's dog.

Trypanosoma †94.—Blood.

hippieum.—Murrina, Derrengadera, Verrenkung.—Venezuela.

venezuelense.

Alaria < †223j.—Intest.

alata.

vulpis o.

Diphyllobothrium †295.—Intest.

†latum.

reptans.—Larva in subcutaneous tis-

sue.

serratum *.—Brazil t.—T. h.

Echinococcus †322.—Intest.

†granulosus.

Mesocestoides < †299.—Intest.

litteratus.

michaelsenii.—Quilpué ^t, Peña Blanea.—T. h.

Ancylostoma †387.—Intest.

†eaninum.

trigonocephalum d.

Dioctophyme †426.

†gigas *.—Kidney, urinary bladder. [species von Ihering, 1902a.]

†viseerale B.

Filaria †435.

acutiuseula.—Pectoral muscles.— Vienna Muscum from Caiçara, Brazil.—T. h.

eanis °.—Vienna Museum from Brazil.

Haemostrongylus <†419.

raillieti.—Heart and pulmonary artery.—Brazil t.—T. h.

Rictularia 459R.

cahirensis.—S. America.

Toxocara †484.—Intest.

†canis.

†marginata °.

†mystax °.

Uncinaria 390B.—Intest.

earinii.—Brazil.—T. lı.

eatholica.—Buenos Aires.

stenocephala.—S. America.

Amblyomma †881.—Ext.

†eajennense.

ineisum.

maculatum.

tovale.

striatum.

Sarcoptes †942.—Skin. †scabiei.

Ctenocephalides †1639.—Ext. †felis felis.—Argentina. [obscurus *.—Argentina.]

#479 Canis | brachyurus Illiger, 1815, Abh. ph.-Kl. K. Ak. Wiss. 1804–1811, 109, 121 [nv].

Dirofilaria †447.

†immitis.—Heart.

Filaria 1 †435.

canis-brachyuri (trachealis) Mol., 1858c.—Subcut. in trachea.— Brazil.

canis-brachyuris °.—Heart muscles; abdomen.—Brazil. papillicauda.—Heart muscles; abdomen.—Brazil.—T. h.

#479 Canis ¹ [or Carcinocyon ^t, #479M Cerdocyon ^r, Lycalopex ¹, Thous ^h, Viverra ¹] (Thos ¹, Thous ^h) cancrivorus ⁿ Desm., 1820, Encycl. méth., Mamm., (1), 199. Crab-eating dog, Chien des bois, Carasissi, Agoura, Cachorro do Mato (forest dog), Rapozao (larger fox). South America. So. #479 Canis ¹ thous thous, fide Cabrera, 1931, 59.

Alaria <†223j.—Intest. alata. vulpis°.

#479 Canis 1 cerdo Gmel. in Linn., 1788, Syst. Nat., ed. 13, v. 1, 75. So. #483 Fennecus cerdo, q. v.

#479 Canis ¹ cinereoargenteus Schreb., 1776, Säugthiere, pl. 92; Erxl., 1777, Syst. Regni Anim., 567. Syn. cinereoargentatus • Trouess., 1904, Cat. Mamm., Berolini, 239. So. #488 Urocyon cinereoargenteus, q. v.

#479 Canis 1 cinereoargenteus scottii (Mearns, 1891, Bul. Amer. Mus. Nat. Hist., v. 3 (2), June 5, 236-238 [Urocyon virginianus]). So. #488 Urocyon cinereoargenteus scottii, q. v.

#479 Canis 1 coeruleus.

Dipylidium †308. [cuneiceps s.]

#479 Canis 1 corruleus m.

*#479 [Canis 1] [or Cerdocyon 1, Lycalopex 1, #479N Pseudalopex 1, Thous 1, Vulpes 1] (Cerdocyon 1, Lupulus 1, #479N Pseudalopex 1) culpaeus magellanicus (Gray, 1837, Proc. Zool. Soc. London, pt. 4 (46), Feb., 88 [nn]; Gray, 1837, Ann. Mag. Nat. Hist., n. s., v. 1, Nov., 578 [Vulpes 1]) Cabrera, 1931, J. Mamm., v. 12 (1), Feb., 63 [Pseudalopex 1]. Port Famine, Straits of Magellan 1; Patagonia; southern Chile.

Ctenocephalides †1639.—Ext. †felis.—Chile.

#479 [Canis ¹ or] #479N Pseudalopex ^r culpaeus reissii (Hilzheimer, 1906, Zool. Anz., v. 30, Apr., 114, figs. 3, 4 [Canis ¹ (Angusticeps)]) Cabrera, 1931, J. Mamm., v. 12 (1), Feb., 63. Quito ^t; Andes of Ecuador.

#479 Canis ¹ (#479C Canis ^r) dingo Blumenb., 1780, Handb. Naturg., 103 [Canis ¹ familiaris]; Meyer, 1793, Zool. Entdeck., 33. Dingo or Australian dog. Domesticated by natives. Syns.: C. diago ^m Temm., 1838–1839, Hoeven's Tijschrif. Natuur. Geschied. Physiol., v. 5 (4), 285.

Anaplasma †1728.—Blood.

species Gilruth et al., 1911.—Melbourne Zoo.

Dipylidium †308.

†caninum.

Echinococcus †322.—Intest.

†echinococcus .

†granulosus.

species (Lindenfeld or Johnston) Stiles, 1906.

Dirofilaria †447.

timmitis.—Heart.

Toxascaris †486.—Intest. leonina.—Phila. Zoo.

Toxocara †484.—Intest.

†canis.—Phila. Zoo.

Ixodes †866.—Ext.

species Steel, 1919.—Australia.

Ctenocephalides †1639.-Ext.

†canis.—N. S. Wales.

†fclis.—N. S. Walcs.

Trichodectes †1100.—Ext.

latus o.-N. S. Wales.

#479 Canis ¹ domestica (Linn., 1758a, 39 [Canis ¹ familiaris]) Ham. Smith, 1840, Nat. Lib., v. 28, Dogs II, June, 137. So. #479 Canis ¹ familiaris, q. v. #479 Canis ¹ domesticus sinensis.

Toxocara †484.—Intest.

†canis.

#479 Canis ¹ dukhunensis Sykes, 1831, Proc. Zool. Soc. London, (8), Aug., 100. So. #476 Cuon dukhunensis, q. v.

#479 Canis ¹ eckloni Przewalski, 1884, Reisen in Tibet, Jena, 111. Thibet Fox. So. #485 Vulpes ferrilatus eckloni, q. v.

#479 Canis ¹ (#479C Canis, Lupina ¹) familiaris Linn., 1758a, 38. House ordomesticated dog, chien, Harshund, Hund, Hunden. Probably some parasites reported for "dog" were in reality obtained from some other species. Upsala ¹, Sweden.

Amoeba 1 †64.

*fecalis.

[*species Ackley, 1913.—Intest.?, causes "salmon poisoning".—
Washington State, U. S. A.]

Anaplasma †172 S.—Blood.

canis.—Red blood cells.—T. h. species [p. 436] Laveran & Franchini, 1914: Anaplasma.

Babesia †173.—Blood.

*bigemina.

canis.—Biliary fever or malignant jaundice, Italy t.—T. h.

[*commune.—Infectious jaundice of dogs.—Ohio t, U. S. A.—T. h.]

gibsoni.—Madras t.—T. h.

tropica.—Piroplasmosis of pack dogs.—India.

vitalii.—"Nambinou."—Brazil ^t.—
T. h.

Bartonella * †177.

canis.—Europe t.—T. h.

Bodo †108.

phlcbotomi.—Produces lesions resembling Oriental sore.—Exp.

Cercomonas †111.

canis i s.—Stomach.

Coccidium 1 †163A.

nudum ⁱ.—Skin.—Italy ^t.—T. h. species Cauchemez, 1923.—France. species Liénaux, 1891a.—Lungs.— Europe.

Cytospermium $i < \dagger 157$.

hepatis canis familiaris p.—Biliary, ducts.—Trematode egg, fide Wen-yon, 1926a, 807.

villorum intestinalium canis p.

Dermosporidium $i < \dagger 156$.

canis i.—Skin.—Italy t.—T. h.

Eimeria †163.

canis.—Feces.—London t.—T. h.

nova h .- Kidney.

†perforans.—Intest.

[pcrforans variety Labbé, 1899a.] †*sticdac.—Liver.

Encephalitozoon †212.

cuniculi.—Exp.

ncgrii.—T. h.

†rabici.—Renamed †212 Glugeae lyssae.

Endamoeba †37.

[†coli d.—Exp.]

[†*dysenteriac d.]

†*gingivalis.—Exp.

†*histolytica.—Also exp. [species Dold & Fischer, 1920.-Feces in dysentery.—Shanghai.] [species Houdemer, 1925.—Tonkin.] [tvenaticum *.—Panama t.—Not dif-T. h. ferentiated from E. histolytica, fide Wenyon, 1926a, 227.—T. h.] Monocystis †155. Endolimax †39. †phagocytoides. Moscow. Giardia †139.—Intest. *canis.—Baltimore t, Md.; Russia. sia, q. v. †*cnterica.—Exp. †*intestinalis d h. †*lamblia.—Exp. Glugea †212. canis. †*vivax.—Exp. †lyssae o.- †212 Encephalitozoon rabici renamed. Hepatozoon < †165.—Blood. canis.—Leucocytes.—India t; Ceylon; Gambia.—T. h. Protozoa †212. chattoni; s. — L e u c o e y t e s . — Senegal.—So. H. canis. [rotundata canis-familiaris *.—Abyssinia.—T. h.] [species Franchini, 1925.—Liver, spleen, bone marrow.—Italy.] Kerpetomonas †91. *pattoni.—Blood.—Lincoln t, Nebraska.—Host i. phlebotomi s. Isospora †161.—Intest. epithelium. †belli.—Neg. exp. sia, q. v. †*bigemina.—Paris t.—T. h. canis.—T. h. *felis.—Europe t. †*rivoltai e.—England; France; species Nieschulz, 1925.—Nether-Toxoplasma †89. lands. [species Virchow, 1860.—So. bigemgondii.—Exp. ina.] [villorum intestinalium canis p.—So. Treponema 1 †142f. bigemina.viverrac.—Neg. exp. Leishmania †88. †braziliensis.—Skin.—B r a z i l t. geria.—T. h.] Exp., also suspected reservoir. [canis Macfie, canis. †donovani.—Tissues.—Kala Azar. [cqui.—Exp.] †donovani archibaldi.—Sudan.—Exp.

†furunculosa *.—Oriental sore.

†infantum.—Infantile leislimania-

sis.—Chief reservoir, fide Nicolle.

species Gachet in Neveu-Lemaire, 1927.—Oriental boil region. †tropica.—Also exp. tropica canina.—Turkestan t; Italy.— Leptomonas $\leq †86$. ctcnocephali.—Blood.—Exp. †sphaerica.—Suprarenal capsules.— Nuttallia s i †172i, O.—So. †173 Babe-Pentatrichomonas * i †134.—So. †131 Trichomonas, q. v. Plasmodium †170.—Blood. Pneumocystis $< \dagger 156$. carinii.—Endothelial cells; lungs, kidney.—Paris t. species Gerrard, 1906.—Leucocytes.—Federated Malay States.— Probably Hepatozoon canis. *species Jackson, 1921.—Salivary gland.—Chicago. Psorospermium <†212. species Neumann, 1866.—See †163 Eimeria perforans. species Virchow, 1860.—See †161 Isospora bigemina. Rangelia is †1720, I.—So. †173 Babe-Sarcocystis †151.—Muscles. species Krause, 1863. species ¹ Wasielewski, 1896. Schizotrypanum †95.—Blood. $\dagger cruzi$.—Also exp. canis.—Blood, spleen, etc.—Turin t: Brazil.—T. h. †aboriginalc.—In granulomatous affection of genitalia. [canina.—Blood.—Marengo t, 1916.—Feces.—Accra t, W. Africa.—T. h.] [hispanicum marocanum.—Exp.] †icterohacmorrhagiae.—Exp. †*icteroides i *.—Exp. †*interrogans.—Exp.

[lavcrani *.—In carcinoma.—So. Spipecorum o. rillum minus.] †rhodesicnse *.—In milk.—"Reser-[melanogenes canis d.—Gastroenterivoir host." tis.—Brno t, Czechoslovakia.—T. soudanense . \ln . species Balfour, 1906.—Exp. $\dagger microgyratum.$ species i ⁸ Bruce et al., 1909.—Zanzi-†morsus-muris. $\dagger *pallidum.$ —Exp. species Donatien & Parrot, 1922.— [regaudi.—In normal stomach.—T. Sahara. species Pinto, 1927.—Brazil.—Of [species Balfour, 1906.—In intestinal equinum type.—Exp. ulcers in trypanosomiasis.—Suspecies Vialatte, 1915.—Beni-Abbes, dan.] Algeria. [†species Brumpt: Pseudospirochaespecies Weck, 1914.—Africa. tes.—Blood.—?So. Spirella regauvenezuelense *.—S. America. di.—Exp.] vickersae.—Exp. [species Gaiger, 1915.—Blood.—In-†vivax.—Exp. dia.] Adleriella < †271.—Intest. [species Kasai & Kobayashi, 1919: minutissima.—Palestine. "Stomach spirochaetes."—Tokyo.] Alaria < †223j.—Intest. [species Kolmer & Wagner, 1916. alata.—Occasionally stomach.— Stomach.—Vienna.] Europe; ? S. America. [species [2 kinds] Ogura, 1925.—Pre-*americana.—Detroit t, Michigan; puce.—Japan.] Washington, D. C.—T. h. tabacalense.—Blood.—Tabacal t. S. *michiganensis.—Detroit t, Michi-Amer.—T. h. gan.—T. h. †vincenti. Apophallus †271P.—Intest. Trichomonas †131. donicum.—Rumania; Russia t.— †*buccalis.—Calif.—Exp. *canistomae.-Mouth.-Baltimühlingi.—Rumania.—Exp. more t.—T. h. [*venustus *.—Washington, D. C.] felis i. Ascocotyle †271J.—Intest. †*hominis 1.—Exp. arnaldoi.—Brazil t.—Syn. arnoldi Trypanosoma 1 †94.—Blood. 1929.anceps *.—Nyasaland *.—T. h. Centrocestus †271L.-Intest. annamense 8.—Annam t. †armatus.—Japan.—Exp. berberum ".--"Debab, taher, tmerdcuspidatus.—Formosa. jin."—N. Africa t.—Exp. cuspidatus caninus s.—Feces.—For-†brucei.—Nagana.—Africa.—Exp. mosa t.—T. h. cazalboui B. [†formosanum.—Formosa.—Exp.] congolense.—Exp. Clonorchis †268.—Liver. dimorphon B. †endemicus *.—China; Japan. equinum.—Exp. †major o. equiperdum.—Dourine.—Exp. Indo-China; †sinensis.—China; evansi.—Surra. Japan. frobeniusi * * [frobenius].—Exp. [†spathulatum d.—Japan.] †gambiense.—Blood, milk.—Exp. Cornatrium <†282. hippicum.—Murrina, Derrengadera, perpendiculum.—Japan.—Exp. Verrenkung.—Venezuela.—Also Cryptocotyle †271F.—Intest. exp. marocanum s.—Also exp. *americana *.—America. montgomeryi i s.—Africa. [*caninum *.—Detroit t, Michigan.— †ninac-kohl-yakimov *.—Exp. T. h.] concava.—Crimea. pccaudi .

*lingua.—England; Europe; Nova fraternus •.—Egypt. Scotia; U. S. A. †heterophyes.—Small intest., [ransomii.—Crimea t.—T. h.] cum.—Egypt; Orient. Dexiogonimus < †271.—Intest. heterophyes sentus.—Egypt. ciureanus.—Palestine. †katsuradai.—Japan.—Exp. Dicrocoelium †277. †nocens *.—Japan.—Exp. †dendriticum.—Bile ducts. Macroorchis <†282. †lanccatum *.—Liver.—Japan. spinulosus.—Exp. Diorchitrema < †271.—Intest. Mesorchis $\leq \dagger 252$. pseudocirrata.—Palestine. denticulatoides.—Crimca t.—T. li. Distoma $1 < \dagger 238$. Metagonimus †273.—Intest. kalapai.—Larva in liver.—Exp. [dobrogiensis *.—Rumania.] Echinochasmus †262.—Intest. parvus 8. clongatus.—Japan.—Also exp. romanicus *.—Somova t.—T. h. †japonicus.—Japan.—Also exp. takahashii.—Japan. † perfoliatus.—Hungary t, Europe; †yokogawai.—Syns.: yokogawa "; Hanoi, Indochina; Japan.—T. h. yokogowai^m.—Asia; Crimea. perfoliatus shieldsi.—China t.—T. h. Metorchis †267i. species Ross, 1930.—Ova in feces.— ?albidus.—Gall bladder. Japan. Microphallus $< \dagger 239A^{\prime\prime}$. Echinoparyphium <†252.—Intest. †minus. †koidzumii.—Formosa.—Exp. Monorchotrema $\leq \dagger 271$. Echinostoma †255.—Intest. †taichui s.—Formosa; Palestine. campi.—Manchuria t.—T. h. †taihokui.—Formosa; Palestine. cinetorchis.—Tokyo, Japan.—Syn. Nanophyetus < †271.—Intest. conetorchis m.—Exp. *salmincola.—Corvallis t, Oregon, conoideum . U. S. A.—Cause of "salmon echinatum. • poisoning" in dogs.—T. h. echiniferum 8. Opisthorchis †267.—Liver. [excavatum *.] †conjunctus.—Bile ducts. gregale.—Bucharest t, Rumania.— †felineus.-Bile ducts.-Asia; Euhortense.—Tokyo t, Japan.—T. h. militare. [†kongenitum d, for conjunctus.] [lanccolatum d h o of Sieb., 1836.] piriforme.—Montpellier t, France.— [lanceolatum o of T. h. van 1885a.—Liver.—Utrecht.] recurvatum.—Egypt.—Exp. †revolutum.—Formosa.—Exp. †noverca.—India. [†sibiricum *.—Small intest.] [species Parona, 1894a.—? So. echitenuicollis. natum.—Modena, Italy.] Euparyphium †257.—Intest. Paragonimus †250.—Lungs. *kellicotti.—California, Indiana, [melis.—Russia.] [putorii *.] Ohio t, U. S. A.; Venczuela.—T. h. Eurytrema †276K. †pulmonale *. rebelle.—Pancreatic ducts.—Hué t, In-[†pulmonis *.] dochina.—T. h. †ringeri.—Formosa, Japan, Korea. Fasciolopsis †248.—Intest. [species Kellicott, 1894a.—So. kelli-†buski.—China. cotti.] Heterophyes †272.—Intest. †westermani.—Asia.—Syns.: westeraequalis.—Egypt; Jerusalem, Palesmanii, westermanni. tine. Parameteris <†265. continuus.-Tokyo, Japan. *complexus.—Pelvis of kidney.—Aldispar.—Egypt; Jerusalem, Pales-

tine.

Tright,

bany, New York.

Parascocotyle <†271.—Intest. ascolonga.—Palestine. italica.—Italy t; Palestine.—T. h. longa.—Palestine. minuta.—Brazil; Egypt, Africa; N. America. Plagiorchis 239-41A.—Intest. massino.—Armenia. Prohemistomum < †223j.—Intest. *appendiculatum.—Rumania; Southern Ukraine, Russia; Washington, D. C., U. S. A. industrium.—China t.—T. h. Pseudamphistomum †270.—Liver. [campanulatum * .— Europe.— Syn. eomplanatum m.—T. h.] [conus s.—Syn. conis m.] danubiense. †truncatum.—Europe. Pygidiopsis < †271. genata.—China; Palestine. summus.—Tokyo, Japan. Schistosoma †281.—Blood vessels. †japonicum.—Fetus; ova in wall of large intest., liver, pleura.—China; Japan; Philippines; S. Africa. Stephanolecithus < †282. parvus.—Formosa. Stictodora < †271. sawakinensis.—Palestine. Tauridiana $\leq †271$.—Intest. pontica.—Kerchi^t, Crimea.—T. h. Anoplocephala 318B.—Intest. species Gaiger, 1915.—Lahore, India. Bothriocephalus 1 < †286.—Intest. species Krabbe, 1865e.—Denmark. CESTODA †327. species Joyeux & Houdemer, 1927: ? Sparganum or ? Tetrathyridium.— Larva in peritoneum.—Hanoi. Cysticercus †326.—Encysted. canis d s Rud., 1809a.—Alfort t, France.—T. h. canis-familiaris d. tcellulosae.—In various organs.— Cosmopolitan. Diphyllobothrium †295.—Intest. *americanum.—Detroit t, Michigan.—T. h. [canis s.—Italy t.—T. h.] †cordatum.—Formosa; Greenland t. decipiens o.—Argentina (exp.); China. [dubius *.—Iceland t.—T. h.]

fuscum.—Iceland t.—T. h. †houghtoni.—China. [laneeolatum.—So. ranarum.—Exp.] †*latum.—Europe; N. America.— Also exp. †*mansoni.—More or less cosmopoliokumurai.—Tokyo t, Japan.—T. h.— [pancerii ⁸ (Polonio) of Baer & Joyeux, 1927.—Adult.—So. ranarum.—Exp.] roillieti 8. ronarum.—Burma; China.—Also exp. reptans. reptans of Meggitt, 1924.—Burma.—So. ranarum, fide Joyeux & Baer, 1927.—Exp. [reticulatus *.—Iceland t.—T. h.] serratum s.—Italy. species Mazza & Vogelsang, 1928.— Mature segments.—Tucumán, Argentina. species Tubangui, 1925.—Manila, Philippine Ids. [species Wharton, 1917.—Philippine Ids.1 species Wigdor, 1921. Dipylidium †308.—Intest. buencaminoi. — Manila t, Philippine Ids.—T. h. †*caninum.—Also anal gland.—Cosmopolitan; Europe t.—T. h. canis o.—Italy t.—T. h. [cateniformis s.—Germany t.—T. h.] *crassum.—California t, U. S. A. cucumerinum ⁸.—Europe ^t.—T. h. [clliptica o.] *gracile.—California t.—Syn. graciele m. örleyi and oerleyi.—India; Philippine Ids. pasqualei.—Egypt; Spain. pasqualeiformis.—Granada, Spain. porimamillanum.—Granada, Spain. rossicum.—Russia. *sexcoronatum.—Cosmopolitan; Budapest t, Hungary.—T. h. species Gaiger, 1915.—Lahore, India. species Henry & Leblois, 1923.— Intest.; macerated segments in anal gland.

erinacei.—China.—Also exp.

*species Shaw, 1928.—Kansas. walkeri. Echinococcus †322.—Intest. †alveolaris 8. †echinoeoeeus a.—India. tgranulosus.—Adult in intest.; larva in various organs.—Cosmopolitan. †multilocularis. †polymorphus s.—Adult and larva. Abdominal cavity.—Germany. Hymenolepis †314.—Intest. †diminuta.—Japan. †nana. species Gaiger, 1915.—Lahore, India. Ligula †290. species Sakamoto & Tsuynki, 1923. Mesocestoides < †299.—Intest. eanis-lagopodis. lineatus.—Europe; Iceland; India; S. Africa. litteratus.—Europe. [pscudo-cucumerina s.—France t.— T. h.1 [pseudo-elliptiea *.—France t.] [serrata astephana *.—Vienna.—T. h.] *species Schwartz, 1927.—Washington, D. C.—Exp. tcnuis.—Burma t.—T. h. utriculiferus 8. Multiceps †324.—Intest. [braehysoma s.—Italy t.—T. h.] brauni.—Ghinda t, Eritrea.—T. h. coenurus o. gaigeri.—Ceylon; Lahore, India. †multiceps.—S. Africa. *paeki.—Minnesota.—Exp. †serialis.—Cosmopolitan. [serialis of Gaiger, 1907.—India.— Renamed gaigeri.—Exp.] *serialis theropitheei.—Washington, D. C.—Exp. species Pagenstecher, 1877.—Subeutaneous tissue. *species Shaw, 1928.—Kansas. Proteocephalus <†283. punicus.—Tunis t.—T. h. Schistocephalus < †289. gasterostei. **Taenia** 1 < †299. canis Vandelli, 1758a. species Henry & Leblois, Intest.

species Meggitt, 1928.—Haifa, Palestine. species Southwell, 1922.—Intest.— Lahore, India. Taenia + †325.—Intest. autarctica.—Winterstation t.—T. h. *balaniceps.—Nevada t, U. S. A. canina h s Bloch, 1782a.—Europe t.— T. h. erythraea. Taenia (Hydatigera) †325c. †taeniaeformis.—Near Sydney, N. S. Wales. Taenia (Taenia) †325b.—Intest. [eaninae o Werner, 1782b.—Not a specific name, see canina solium.] eueurbitina o. cucurbitina canis h * Batsch, 1786a. eynica o.-T. h. thydatigena.—Cosmopolitan. krabbei.—Lappland; Alaska. marginata s.—Tueumán, Argentina; Lausanne, Switzerland. *ovis.—Cosmopolitan. †pisiformis.—Cosmopolitan. serrata s of Authors, of dogs.-Intest., anal gland.—Cosmopolitan. serrata canis h o Gmelin, 1790a. serrata fusa °. serrata vera o.—Germany t.—T. h. †solium.—Probably most specimens from dogs are hydatigena. solium s of Werner, 1782a.—T. h. Tetrathyridium <†284a. [bailleti.—Thorax, abdomen.—Europe.—Syn. railleti m.] elongatum d h s Blumenb., 1882a.— Peritoneum.—Europe. [martis *.—Europe.] [taxi.—Europe.] Agamonema †375. [affinis.—Intermuse.—So. ? Triehinclla spiralis.] [*gaylordi.—Thyroid gland.—Maine, U. S. A.—Syn. gacpordi ^m.—T. h.] [species Bochefontaine, 1874a.—Kidney.] Ancylostoma †387.—Intest. [balsami *.—Italy.] brasiliensc • for braziliense.

†*brasiliensc.—Florida; Texas; Argentina; Rio de Janeiro, Brazil; Philippines; S. Africa.

†*caninum.—Also intra-uterine infection.—Cosmopolitan; U. S. A.; W. Africa.—T. h.

†ceylanicum •.—Bengal; Ceylon; Sumatra; W. Africa.—Cf. brasilicnse.

†duodcnalc.—Tokyo; Egypt.—Young stages experimentally in young dogs.

species Bodkin & Cleave, 1916.— Brit. Guiana.

[trichocephalus, trigocephalus, trigonacephalus, trigonocefalo, trigonoceohalus, trigonocoefalus, trigonouphalus, variants d for trigonocephalum d.]

trigonocephalum 1.

Anguillula †337.

species Schneider, 1896.—Skin.

Ascaris †481.—Intest.

†lumbricoides.—England; China; Japan; Zungeru.

Bunostomum < †388c.—Intest.

trigonocephalum.—Accidental in dog.

Capillaria †372b.

*plica.—Urinary bladder.—Europe; U. S. A.

Chlamydonema 470I.

praeputiale.

Cloacina < †409a.

octodactyla.—Pfalz.—T. h.

Dioctophyme †426.—Kidney.

[canis h.]

[giganteus o.]

†gigas *.—Abd., kidney.—England; Italy.

[gulonis-sibirici .]

†*renalc.—Liver, kidney, abd. cav.—
More or less cosmopolitan.—T. h.
[renum canis *.]

[sanguineus in rene canis d.]

viscerale *.—Kidney, urinary organ, perirenal tissue.—Punjab.

Dipetalonema †453.

dracunculoides.—Cav. periton., pleura.—Africa, Belgian Congo; Tunis.

grassii.—Connective tissue, subcut.— Vector, †875 Rhipicephalus sanguineus. reconditum.—Kidney, perirenal tissue; larvae in blood.—Argentine; Italy.—Syn. rekondita ^m.

Dirofilaria 449A.

[crino .]

[crinon *.]

†*immilis.—Heart; pleural cav.; pulmon. artery; circulatory app.; skin.—More or less cosmopolitan. ochmanni.—Periton. cav., skin,

blood.

repens.—Periton. cav., skin.—Annam; Bologna.

[sanguinis * Cobbold, 1869a; Ercolani, 1875e.—Blood, heart.— France t; Bologna.—T. h.—So. immitis.]

Dracunculus †439.

†medinensis.—Connective tissue.

Enterobius †492.

†vermicularis.—Cecum.

Eucoleus < †369.

aerophilus.—Lungs.

Filaria¹ †435.

acutiuscula.—Connective tissue.

canis °.—Tumors of aorta.—So. ? acutiuscula.

hepatica.—Larva encysted on intest. wall and liver.—England.

oculi caninid.—Eye.—So. trispinulosa.

papillicauda •.—Heart.—Brazil.—So. 449 A immitis, fide Stossich, 1896b, 34.

sanguinis ^h Fayrer, 1879e.

sanguinis ^h canis ^h Pease, 1901c.—
India.

species Berl. Tier. Wochenschr., 1895.—Eye.

trispinulosa.—Corp. vitr. oculi.

Fusaria 1 †479.

species Braun, 1883b.—Intest.—Germany.

Gnathostoma †473.

robustum *.—Stomach of Pariah dog.—India.—So. ? spinigerum.

†species Chandler, 1927.—India.

[species * Lewis, 1874.—Stomach.—India.—So. spinigerum.]

†species Morishita & Faust, 1925.—China.

†spinigerum.—Gastric wall.—China; India.

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Haemostrongylus < †418.
                                         Spirocerca 468G.
  [? subulatus *.—Lung; prostate, pe-
                                           arctica.—Russia t.
    nis.—Dresden.—So. vasorum.]
                                           [lupi.]
  vasorum.—Heart, pulmonary artery,
                                           *sanguinolenta.—Stomach, esoph.,
    eye, bronchi (embryo), embryo in
                                             bronchi (embryo), embryo in blood,
    blood.—Europe.—T. h.
                                             aorta, lymph glands, lung, skin,
  [vasorum canis.—Heart.—Syn. vaso-
                                             mesentery glands.—Cosmopolitan.
    rum kanis °.]
                                         Strongyloides †355.—Intest.
Hepaticola †372.—Liver.
                                           canis i s. - Orient.
  †hcpatica.—Exp.
                                           fülleborni.—Exp., transient.
  *species Wright, 1930.—Washington,
                                           species <sup>8</sup> Gonder, 1907.—Exp. nega-
Metastrongylus †421.
                                           †*stcrcoralis r.—Exp. to dog.—China,
  [octodactyla.—Landau
                         bei
                               Nieder-
                                              Japan, U. S. A.
    hochstat.]
                                           [†strongyloides.]
Microfilaria †432.—Blood.
                                           westeri.—Exp. negative.
  auquieri.—Algeria t.—T. h.
                                         Strongylus \dagger 378a; \dagger 395c.
  lewisi e.—India t.—T. h.
                                           [cquinus.—Stomach wall.]
  [sanguinis | canis | Pease, 1901c.—
                                           species Della-Rovere, 1863a.—In
    India t.—T. h.]
                                             tumor.—Italy.
  [species Heinrich & Schuchmann,
                                           species Parona, 1894a.—Pisa.
     1924.]
                                           [variegata h s Brug., 1792a.]
  species Léger & Baury, 1922.
                                         Syngamus †407.—Larynx.
Necator †390.—Intest.
                                           laryngeus.—Java.
  †*americanus.—Louisiana.—Very
                                         Thelazia †464.—Eye.
    rare in dogs.
                                           †callipaeda.—Under nictitating mem-
Nematoideum †352a.
                                             brane.—N. Punjab; Rawal Pindi.
  canis-familiaris.—Esoph.
                                           *californiensis.—California.
  species Par., 1894a.—Turin.
                                           [†circumocularis *.—China.]
Oslerus 473D.
                                           lacrymalis i.—Lachrymal glands, eye-
  [bronchialis canis dop.]
                                             balls under eyelids.
  [canis bronchialis d op.—Montreal.—
                                           [palpebralis h a.—China.]
    Renamed osleri.]
  *osleri.—Nodules on respiratory ap-
                                           species Wenyon, 1930.—Hair follicles
                                             of eyelid.—Case of oriental sore.
    paratus.—Canada; Texas, U. S. A.
  [pulmonalis d o.]
                                         Toxocara †484.—Intest.
  [tracheo-bronchialis canis dop.]
                                           †canis Werner.—Cosmopolitan.
Passalurus †488g; †488J'.—Intest.
                                           †cati.
  ambiguus.
                                           [†felis o.]
Physaloptera †470H.
                                           †*marginata o.—Dutch Guiana.—
  canis.—Pretoria t.—T. h.
                                             Also exp. prenatal.
  *rara.—Duodenum.—Michigan.—
                                           [mistax m.]
    ?Accidental infection.
                                           [myolare.—Brazil.—? Misprint for
Porrocaecum †476u.—Intest.
                                             mystax.]
  decipiens.
                                           †*mystax o.—Also gall ducts.—Cf.
Rhabditis †339.
                                             cati.—In pups 4 to 5 days old.
  †pellio.
                                           [nuptax m.]
  plicata.
                                           *species Hall, 1912.—Colorado.
  strongyloides.—Skin; in dermatitis
                                           [teres canis <sup>8</sup> Goeze.]
    verminosa.
                                           [tricuspidata *.]
Rictularia 459R.
                                           [triquetra *.]
  cahirensis.—Small intest.—Tur-
                                           *vulpis.—Massachusetts.
    kestan; Armenia.
                                           [†werneri o.]
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Toxascaris †486.—Intest. Haemadipsa †552.—Ext. [†alata.—So. ?limbata or ?mystax.] †japonica.—Japan. [†caniculae.—So. limbata.] †japonica taiwana.—Formosa. [caniculi, canikuli, for caniculae.] †zeylanica.[†canis d Werner of Glaue, 1919.— Limnatis †547. So. limbata.] †nilotica.—Digestive and respiratory [†felis o.—So. limbata.] apparatus.—Lahore, India. leonina.—Poland: S. Africa. Acarus †924. †*limbata.—Europe.—Cf. leonina. †farinae.—Intest.—Germany. †marginata d.—So. limbata. Amblyomma †881.—Ext. Trichinella †366.—Intest., muscles. agamum.—Brazil.—Neg. exp. [canis s.—Germany.] †*americanum.—U. S. A.; Brazil. [†pubis m.] †cajennense. †*spiralis. calcaratum.—Brazil, S. America.— [†trichina o.] Trichosoma 1 + 372a. conspicuum *.—Brazil. t—T. h. species Sandground, 1921.—Bladder. darlingi.—Panama t. Trichuris †370.—Intest.; cecum. exornatum: Amblyomma 1; Aponom-*depressiuscula o.—More or less cosma.—S. Africa. mopolitan. $\dagger fossum.$ ovis.—China. thebraeum. [species Faust, 1922.—China.] [*inornatum: †881b Aponomma.— *vulpis.—Europe; U. S. A. Texast.—T. h.] Uncinaria 390B.—Syn. Uncicaria m †*maculatum.—U. S. A. to Argentina 1926.—Intest. and Chile. *criniformis.—Australia, U. S. A. oblongoguttatum.—S. America. *polaris . tovale. - Mexico. species Galli-Valerio & Bornand, pictum. 1927.—Switzerland. †persicum. [species Rail., 1890w.—Japan.] †rotundatum.—S. America. †*stenocephala.--Alaska, N. Ameri-†striatum *.—S. America. ca; Europe.—One cause of tcreeptriguttatum.—Australia. ing cruption, Germany, exp. *tuberculatum. [tetragonocephalus o.—Germany.] †*unipunctatum *. vulpis. $\dagger variegatum.$ Wellcomea 494A.—Intest. varium. ?compar. Armillifer †796.—Encysted. Echinorhynchus 1 †502. †armillatus. canis h o Porta, 1914.—Intest.— Bel-†moniliformis. gium t.—T. h. Boophilus †878.—Ext. Macracanthorhynchus †508. Syn. Miracanthorhynchus m 1926. †*annulatus. catulinus.—Intest.—Turkestan t.— †australis. †*bovis *.—Panama. †hirudinaceus [hirundinaceus m]. †decoloratus.—Panama; Africa. Moniliformis †505.—Intest. †microplus. [belgicus *.—Ghent t, Belgium.] Cheyletus †996. [canis h o.—Ghent t, Belgium.] †eruditus.—Intest.—Europe. [grassii s.—Sieily t, Europe.—T. h.] Demodex †855.—Hair follicles. †moniliformis.—Europe. caninus s .- T. h. Oncicola †501o.-Intest. †folliculorum. *canis.—Texas. *folliculorum canis.—Cosmopolitan. [*species Ward, 1897.—Nebraska.]

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Ixodes †866.—Ext.
Dermacentor †873.—Ext.
                                           australiensis.—Australia t.
  †*americanus d.—Baltimore, Md.
                                           autumnalis s .- England t .- So. hcxa-
  †*andcrsoni.
                                             gonus.—T. li.
  atrosignatus.—? Australia.
                                           canisuga.—England t.—T. h.
  †*clectus.
                                           communis *.—So. affinis.
  †*occidentalis.
  †reticulatus.—Vector of †173 Babe-
                                           erinacci 8.
    sia canis.—France.
                                           crinaceus °.—Gr. Britain.
  †*variabilis.
                                           †*hexagonus.—Europe; U. S. A.
                                           hexagonus cookei.
  *variegatus.
  †*venustus d.—So. andersoni.
                                           *hexagonus inchoatus.—Europe;
Dermanyssus †895.—Ext.
                                           †holocyclus.—Epileptiform attacks;
  \dagger gallinae.
Eulaelaps < †898.—Ext.
                                             paralysis.—Indes; Queensland.
                                           *kingi.—Wyoming t.
  stabularis.—Kennels.—Europe.
                                           megathyreus 8.
Haemaphysalis †869.—Ext.
                                           nairobiensis.—Africa.—T. h.
  birmaniac.
  bispinosa.—Assam, India.
                                           pilosus howardi.—S. Africa t.—T. h.
  bispinosa intermedia.
                                           †pilosus.
  campanulata.—Mongolia t, China; S.
                                           plumbeus.—France.—So. ?ricinus.
    India; Japan.—T. h.
                                           *pratti.
  [chelifer.]
                                           †rasus.—Ashanti, Africa.
  concinna.—France; Poland; Japan.
                                           †reduvius .
  cornigera.—E. Bengal, India.
                                           tricinus. — Skin,
                                                               eve.—Transmits
                                             tick paralysis in Australia.
  concinna hirudo o .- Japan t.
  concinna kochi.—Japan, Asia.
                                             pected vector of †173 Piroplasma
  flava flava.—Japan t, Mongolia, Asia.
                                             canis (hematuria, tick fever).
  formosensis.—Formosa t.—T. h.
                                           ricinus ovatus .- Japan.
  hystricis.—Assam, Malay.
                                           †*ricinus scapularis.—Texas; Fla.;
  indica.
                                             Costa Rica.
  †leachi e leachi.—Transmits malig-
                                           *rugosus: Ixodes cookei.—Oregon t.—
    nant jaundice.—Congo Free State.
                                             T. h.
  montgomeryi.—India t.
                                           scapulatus.
  neumanni.—Japan; Ceylon.
                                         Leptus †955.
  otophila.—Macedonia.
                                           †*americanus.
  parmata.—Cameroon.
                                         Linguatula †800.—Nasal cavities.
                                           denticulata.—Exp. head.—Germany.
  †punctata.
                                           †lanceolata h e.—Buenos Aires.
  wcllingtoni.—Borneo t; Siam.
Hyalomma †880.—Ext.
                                           trhinaria .
                                           †*scrrata.—Alabama;
  †acgyptium aegyptium.—Skin; ear.—
                                                                  India;
                                                                           Eng-
    India; Congo Free State; S. Africa.
                                             land.
  †aegyptium impressum.—S. Africa.
                                           †tacnioides o.
  aegyptium isaaci.—India.
                                         Metathrombium †964.—Ext.
  fabricii 8.
                                           †poriceps.
  hussaini.—India.
                                         Microtrombidium †974.-Ext.
  hussaini brevipunctatum.—Ananta-
                                           tmeridionale.
     pur <sup>t</sup>, Madras Pres., India.—T. h.
                                           †pusillum.
  kumari.—India.
                                           species Ross, 1926.—Australia
  monstrosum.—Bihar and Orissa Prov.,
                                         Notoedres †936.-Ext.
                                           †cati.—Head, ears.—Australia.
  syriacum.—Mytilene, Asia Minor.
                                            [†notoedres.]
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Ornithodoros †863.—Ext. Tetranychus †987. †moubata.—S. Africa. molcstissimus. †savignyi. Trombicula †970.—Ext. Otobius †862.—Ext. †akamushi. $\dagger *mcgnini.$ —Ear. †autumnalis.—Europe. Otodectes †944c.—Ear. †irritans. [*auricularum s.—Louisiana.—T. h.] †tlalsahuate. [auricularum canis *.] †vandersandei. [auricularum cati o (felis 1860, re-†wichmanni. named).] Trombidium †977.—Ext. cynotis.—Europe t.—T. h. tholosericeum. [ecaudatus s.] †striaticcps.—Europe. [felis *.—Europe.] Tydeus †949.—Ext. furonis.—Exp. negative. †molestus. Porocephalus †798. Achorutes †1062.—Pseudoparasite. [proboscidcum o.—Exp., larva, died viaticus. young.] Aëdes †1459.—Ext. Psoroptes †938.—Ext. †fasciatus s. equi cuniculi. Amphipsylla < †1626. Rhipicentor †874.—Ext. contigua contigua. vicinus.—Pretoria t. Anopheles †1460.—Ext. Rhipicephalus †875.—Ext. †superpictus.—Mediterranean Region; †appendiculatus.—Africa. India. †bursa.—S. Africa. capensis.—Africa. Auchmeromyia †1580. dugesii s.—France t.—T. h. †luteola.—Larvae suck blood—Africa. Bogeria <†1573. †evcrtsi. falcatus. emasculator.—Larvae in scrotum. haemaphysaloides. Montreal, Que. lunulatus.—Congo t. *species Hall, 1924.—Larvae pulchellus. feccs.—Miss. punctatissimus.—Africa t. Ceratophyllus †1627.—Ext. †sanguineus.—Ear, skin.—Trans-†fasciatus.—Brit. Columbia. mits †173 Babcsia canis and Cochliomyia †1581A. <†165 Hepatozoon canis.—Pan-†*macellaria.—Larvac in nasal cav., ama; Manaos; world-wide in tropiova in tick lesions.—Panama; cal and subtropical region.— America. †1581A Chrysomyia oviposits in Cordylobia †1599. tick lesion. †anthropophaga.—Larvae subcut. species Franchesi, 1925.—Italy. gruenbergi s. — Larvac subcut. — *texanus.—Texas t. Africa. Sarcoptes †942.—Ext. Ctenocephalides †1639.—Ext. †canis * Gerl.—Europe t.—T. h. †*canis.—America; Europe.—T. h. †canis ^h Rail.—Europe. [†cnncodus •.—Europe.] cuniculi h.—Exp. negative. †*felis felis.—America; Europe. †ovis.—Europe.—Exp. negative. fclis strongylus.—Africa t. †scabiei. [†novemdentatus o.—Europe.] scabici furonis.—Exp. negative. [†scrraticcps o.—Europe.] squamiferus o. Cuterebra $\leq †1573$. [species Berge, 1923.—Dresden.] Tarsonemus †913.—Ext. *species Hall, 1925.—Larvae subsauli.—In tumors.—Europe. cut.—Ill.

Oestrus †1574.

Dermatobia †1575. tcyaniventris.—Larvae subcut.—C. & S. America. noxialis *. — Larvae subcut. — Mexico. Echidnophaga †1633.—Ext. †gallinacea.—Africa. larina.—Somaliland. Gasterophilus †1572. equi e d of Clark.—Larvae in stom. tintestinalis.—Larvae in stom. Glossina †1601.—Ext.—Africa. †brevipalpis. †longipalpis. †longipennis. †morsitans. $\dagger pallidipes.$ †palpalis. †tachinoides. Haematobia †1602.—Ext. exigua. Heterodoxus < †1097.—Ext. *armiferus *.—Berkeley t, Calif. longitarsus.—Rio Piedras, Puerto spiniger s.—Africa.—T. h. Rippobosca †1617.—Ext. †canina ⁸.—Europe. †capcusis.—Europe; Asia; Africa.— T. h. †equina. equina canina h.-Bulgaria t.-T. h. francilloni ⁸.—Asia; Africa. †maculata.—Dutch E. Indies. Linognathus < †1108.—Ext. [*bicolor *.—La. t—T. h.] [canis-familiaris s.—Europe t.—T. h.] [flavidus *.—Europe *.—T. h.] piliferus s.—Europe t.—T. h. setosus [nv].—Transvaal. Lucilia †1583. carnicera.—Ova in tick lesions.-Panama.

tovis.—Larvae in frontal sinus.— Algeria. Phthirus †1107.—Ext. $\dagger pubis.$ —Europe. Procaviopsylla < †1634.—Ext. isidis.--Somaliland. Pulex †1635.—Ext. †*irritans.—Europe; Asia; U. S. A. Pycnosoma †1611. †flaviceps.—Ceylon. Rhopalopsyllus †1635A.—Ext. †*sigmodoni.—Houston t, Texas. Sarcophaga †1587. †carnaria. †ruficornis.—Larvae subcut.—India. Simulium †1480.—Ext. †pertinax.—Brazil. †venustum.—Brazil. Stomoxys †1613.—Ext. †calcitrans. nigra. Synosternus < †1634.—Ext. $\dagger pallidus.$ —Africa. somalicus.—Africa. Tabanus †1487.—Ext. $\dagger gratus.$ Trichodectes †1100.—Ext. canis.—Europe ^t.—T. h. latus °.—Europe t.—T. h. octopunctatus s.—Great Britain. Tunga †1631.— ♂ ♀ ext., gravid ♀ sub-[canis ^e.—S. America ^t.—T. h.] †penetrans.—S. America t. Typhloceras $< \dagger 1623$.—Ext. [bisnovemdentatus i s.—Europe.] Wohlfartia †1591. †magnifica.—Larvae in nasal cav.— Europe.

#479 Canis | familiaris borealis.

Taenia (Taenia) †325b.—Intest. serrata monostephana.—T. h.

#479 Canis ¹ familiaris fricator Linn., 1758a, 39. Filaria ¹ †435.

oculi canini de.—Eye.

trispinulosa.—Eye.—T. h.

#479 Canis | familiaris pomeranus.

Diphyllobothrium †295.—Intest.

serratum .

#479 *Canis ¹ fulvus Desm., 1820, Encyel. méth., Mamm., (1), 203. So. #485 Vulpes fulva, q. v.

#479 Canis ¹ [or #479N Pseudalopex ^r] graeilis Burmeister, 1861, Reise La Plata-Staat., Halle, v. 2, 406. Outskirts of Mendoza ^t.

Ctenocephalides †1639.—Ext.

†fclis.—Argentina.

[obscurus *.—Argentina.]

#479 [Canis ¹ or] #479N Pseudalopex ^r graeilis domeykoanus (Philippi, 1901, Anal. Univ. Santiago Chile, v. 108, 168 [Canis ¹]) Cabrera, 1931, J. Mamm., v. 12 (1), Feb., 65. Copiapo ^t.

#479 [Canis 1 or] #479N Pseudalopex r graeilis graeilis (Burmeister, 1861, Reise La Plata-Staat., Halle, v. 2, 406) Cabrera, 1931, J. Mamm., v. 12 (1), Feb., 65. Zorro der Einheimischen. Outskirts of Mendoza r; Plains of western Argentina, from Santiago del Estero to Venquen.

#479 [Canis 1 or] Pseudalopex r graeilis patagonieus (Philippi, 1866, Archiv Naturg., v. 1, 116 [Canis 1]) Cabrera, 1931, J. Mamm., v. 12 (1), Feb., 66. Straits of Magellan t; Patagonia.

#479 Canis 1 griseus. A confused specific name. See following host entries.

Amblyomma †881.—Ext.

†maculatum.

Sarcoptes †942.—Ext.

†scabiei.

Malaeopsylla < †1626.—Ext.

androcli •.—Santa Cruz •, Brazil.—

grossiventris.—Argentina.

Pulex †1635.—Ext.

†irritans.—Valparaiso, Chile.

#479 Canis ¹ griseus ^o Boddaert, 1784, Elench. Anim., Roterdami, 97. Gray fox. So. #488 **Uroeyon einereoargenteus**, q. v.

#479 Canis ¹ [or Lupus ⁸] (#479C Lupus ⁸) griseus ^d (of Sabine, 1823, Franklin's Narr. Journey Polar Sea, 654 [Canis lupus]) Merriam, 1897, Mazama, v. 1 (2), Oct., 224. Northern gray wolf. Cumberland House, Saskatehewan, Canada ^t.

#479 Canis ¹ [or Cerdoeyon ¹, #479N Pseudalopex ¹] (Thous ¹) griseus ^d of Gray, 1837, Proc. Zool. Soc. London, pt. 4 (46), 88 [nn]; Gray, 1837, Ann. Mag. Nat. Hist., n. s., v. 1, Nov., 578 [Vulpes ¹] [not griseus of Bodd., 1784; not of Sabine, 1823]. Patagonia. So. #479N graellis patagonieus, fide Cabrera, 1931, 66.

#479 Canis ¹ griseus ^d of Wolffsohn & Porter, 1908, Rev. Chil. Hist. Nat., v. 12, 76 [not Boddaert, 1784; not of Sabine, 1823; not of Gray, 1837]. So. #479N

graeilis donieykoanus, fide Cabrera, 1931, 65.

#479 Canls ¹ (Cerdoeyon ¹, Thous ¹) griseus gracilis (Burmeister, 1861, Reise La Plata-Staat., v. 2, 406) Trouess., 1904, Cat. Mamm., Berolini, 234. So. #479 Canls ¹ graeilis graeills, q. v.

#479 "Canls indieus."

Haemaphysalis †869.—Ext.

†lcachi.—India.

#479 Canis ¹ japonlea (Gray, 1868, Proc. Zool. Soc. London, 517 [Vulpes])
Flower & Lydekker, 1891, Introduct. Mamm., 552. Japan. So. #485
Vulpes vulpes japonlea, q. v.

#479 Canls ¹ [or #479G Chrysoeyon ^t, Lupus ¹] (Canis ¹, #479G Chrysoeyon ^r ^t) jubatus Desm., 1820, Eneyel. méth., Mamm., (1), 198. Brazilian wolf,

maned wolf, Aguara-guazu, Guará, Lobo. S. America.

Ancylostoma †387.—Intest.
†eaninum.
trigonocephalum d.
Dioctophyme †426.
†gigas.—Kidneys.
[species von Ihering,
1902a.]
†viscerale *.

Microfilaria †432.—Blood. species Migone, 1916.

#479 [Canis ¹ or] #479E Nyctereutes ^r koreensis Mori, 1922, Ann. Mag. Nat. Hist., ser. 9, v. 10 (60), Dec., 607. Giseifu ^t, Seoul, Korea.

Diphyllobothrium †295.

†mansoni.—Larva and adult.—Korea.

#479 Canis 1 lagopus Linn., 1758a, 40. So. #486 Alopex lagopus.

#479 Canis ¹ (Lupulus ⁸, #479D Thos ^r) lateralis ⁸ Sclater, 1870, Proc. Zool. Soc. London, no. 19, 279, pl. 23. Side-striped jackal. River Fernand Vas, south of Gaboon ^t; Africa (Gaboon in the west and Uganda in the east to Zululand in the south). So. C. adustus, fide Trouess., 1897e, 305; Mivart, 1890, 49; Lydekker, 1908, 460.

Ctenocephalides †1639.—Ext. †canis.—Brit. E. Africa. felis strongylus.—Voi t, Kenya Colony.—T. h.

#479 *Canis ¹ [or Chrysocyon ¹, Lupulus ⁸, Lyciscus ⁸ ¹] (Canis ¹, Lupina ¹, Lupulus ⁸, Lyciscus ⁸, Neocyon ⁸ ¹, #479D Thos ⁷) latrans Say, 1823, Long's Exped. Rocky Mts., v. 1, 153, 332. Barking coyote, N. American coyote, Prairie-wolf, Heulwolf, Prairien-Wolf, Prairiewolf, Steppenwolf. Vicinity of Council Bluffs ¹, Iowa; humid prairies and bordering woodlands of northern Mississippi Valley, in Iowa and Minnesota, and northern edge of plains westward to base of Rocky Mts. in Province of Alberta.

Opalinopsis < †188.

*nucleolobata.—Liver.—Phila. Zoo t.—T. h.

Opisthorchis †267.

*pseudofelineus.—Gall ducts.—Nebraska, U. S. A.

Multiceps †324.—Intest.

 $\dagger multiceps.$

Taenia (Taenia) †325b.—Intest. †pisiformis.

Ancylostoma †387.—Intest.

†*caninum.—Washington, D.C. trigonocephalum ^d.

Toxascaris †486—Intest. leonina.—Phila. Zoo.

Dermacentor †873.—Ext.

†*variabilis.

†*venustus d.—So. †andersoni.

Sarcoptes †942.—Skin.

†seabiei lupi.

Cediopsylla < †1634.—Ext.

*inaequalis inaequalis.—Montana.

Ceratophyllus †1627.—Ext.

†*acamantis.—Brit. Columbia; Montana.

*lucidus *.—Montana.

Megarthroglossus $< \dagger 1634$.—Ext.

sicamus.—Sicamous t.--Brit. Columbia.—T. h.

Trichopsylla < †1626.—Ext.

setosa.—Canada t.

Trichodectes †1100.—Ext.

latus o.

#479 Canis latrans texensis=? #479 Canis nebracensis texensis.

Oslerus 473D.

*osleri.—Texas.

Oncicola †501o.

*canis.—Texas.

#479 *Canls ¹ (Canis, Lupulus ⁸, Lyciscus ⁸, #479D Thos ⁷) lestes Merriam, 1897, Proc. Biol. Soc. Wash., v. 11, Mar. 15, 25. Robber Coyote. Toyabe Mts. near Cloverdale, Nye Co., Nevada ¹; Brit. Columbia, Washington State, Oregon, south to Arizona, to Mexican boundary.

Alaria < †223j.—Small intest.

*orcgonensis.—Redmond t, Orcgon.—T. h.

*species Cram, 1926.—Oregon.—So. oregonensis.

Nanophyetus <†271.

*salmincola.—Northwestern U. S. A.

Dermacentor †873.—Ext.

 \dagger *andersoni.

†*venustus d.—So. †andersoni.

#479 Canis [or Lupulus 8] (#479D Thos) lupaster Ehrenb., 1833, Symb. Phys., Manm., dec. 2. Egyptian jackal. Warmer regions of Old World.

Dracunculus †439. †medinensis.

#479 Canis ^r lupis ^m Warburton, 1920, Parasitol., v. 12 (3), Sept., 279. So. #479 Canis ¹ lupus, q. v.

#479 Canis ¹ [or Chaon ^t, Lupus ^t] (#479C Canis ^b ^r, Lupina ¹, Lupus ^t) lupus Linn., 1758a, 39. Wolf, loup, Ulven, Vargen, Baglura, Chanco, Chángú, Chanku, Gúrg, Gúrk, Kharmá, Rátnahún, Ratnakin. Europe (Sweden ^t); Asia.

Alaria < †223j.

alata.—Intest., stomach.—Europe.

Heterophyes †272.—Intest. persicus.

Paragonimus †250.—Lungs.

†westermani.—Korea.—Syn. westermanii.

Pseudamphistomum †270.

 $[\dagger truncatum.]$

Cysticereus †326.

†tenuicollis.

tenuicollis hominis d.

Diphyllobothrium †295.—Intest.

decipiens °.

maculatum 8.

†mansoni.—Larva and adult.—Korea.—Host given as Vulpes lupus.

Dipylidium †308.—Intest.

pasqualci.

Echinococcus †322.—Intest.

†cchinococcus 8.

†granulosus.

minimus.—Macedonia t.—T. h.

Mesocestoides <†299.—Intest.

utriculiferus *.

Multiceps †324.—Intest.

†scrialis.—Adult.

Taenia 1 < †299.—Intest.

opuntioides.—Berlin ^t, Germany.— T. h.

species Fielden in Nares, 1878. vulpina.

Taenia ^r †325.—Intest.

eanina h s.—Europe.

crassiceps.

Taenia (Taenia) †325b.

cysticercus h o.

†hydatigena.—Intest.

lupina *.—Intest.

†marginata *.—Small intest.—T. h.

Aneylostoma †387.—Intest.

†*caninum.—Washington, D. C.

trigonocephalum d.—Stom.—Vienna Muscum.

Capillaria †372b.

plica.—Berlin; Ireland.—T. h.

Crenosoma < †419.

[annulatus *.—Air passages.— Europe.]

Europe.

[lupi de Molin, 1861.—Air passages.] vulpis.—Europe.

Dioctophyme †426.

[gigantcus o.]

[gigas *.—Kidney.]

[gulonis-sibirici *.] †renale.

[sanguineus in rene canis *.] viscerale *.

Eucoleus $\leq †369$.

aerophilus.

Physaloptera †469.

papilloradiata.—Pectoral cavity.—Persia.—T. h.

Spirocerca 468G.

[lupi *.—Intest., stomach.—T. h.] sanguinolenta.—Stom., duodenum.—Germany.—T. h.

Toxascaris †486.

microptera.—Esoph., intest.—Vienna Museum; Germany.—T. h.

Toxocara †484.—Intest.

[lupi *.]

†mystax •.—Also csoph.

vulpis.

Trichuris †370.—Ceeum. vulpis.

Uncinaria 390B.—Intest. catholica.—Buenos Aires. criniformis.—Berlin Museum.

Ixodes †866.—Ext.

†hcxagonus hcxagonus. hcxagonus longispinosus.

Linguatula †800.—Nose.

†rhinaria *.

serrata.

†tacnioidcs °.

Sarcoptes †942.—Skin.

†scabici lupi.—France t, Central Europe.—T. h.

Pulex †1635.—Ext.

†irritans.

Trichodectes †1100.—Ext.

†canis.—Europe.

#479 Canis ¹ (#479C Canis ^r) lupus japonica ^h Nehring, 1885, Sitz.-Ber. Gesellsch. Nat. Fr. Berl., 139 [not #485 Vulpes vulpes japonica (Gray, 1868)]. So. Canis hodophylax, fide Trouess., 1897c, 301.

#479 Canis ¹ (#479C Canis ¹) lupus lupus (Linn., 1758a, 39) Miller, 1912, Mamm. W. Europe, 313. Sweden ¹; northern and central Europe, exact limits of range unknown; formerly west to Ireland.

#479 Canis ¹ magellanicus Gray, 1837, Proc. Zool. Soc. London, pt. 4 (46), Feb., 88 [nn]; Gray, 1837, Ann. Mag. Nat. Hist., n. s., v. 1, Nov., 578 [Vulpes ¹]. So. #479 Canis ¹ culpaeus magellanicus, q. v.

#479 Canls ¹ (Cerdocyon) magellanicus riveti (Trouess., 1906, C. r. Acad. Sci., Paris, v. 143 (26), July to Dec., 1185) Trouess., 1910, Are Mérid. Equat. Amer. Sud., Paris, v. 9 (1), pp. A3, A12, pls. II-VIII. Alchiphichi ^t, Pichincha Province, Ecuador. So. culpaeus reissil, fide Cabrera, 1931, 63.

Trichodectes †1100.-Ext.

riveti.—T. h.

#479 Canis i megalotis Desm., 1822, Encycl. méth., Mamm., (2), 538. So. #480 Otocyon megalotis, q. v.

#479 Canis I [or Lupulus s, Lupus I, #479D Thos I, Thous s, Vulpes I] (Lupina I, Lupulus s, #479D Thos I) mesomelas Schreb., 1776, Säugeth., v. 3, 370, pl. 95 (1776). Black-backed, golden, red, or silver-backed jackal, Cape jackal, fox, Jackhals, kapische Schakal, Schabrakenschakal, Impungutshe, Pukuye, Rooi Jackhals. Abyssinia to Cape Colony, Africa.

Dipylidium †308.—Intest.

†caninum.—S. Africa.

Echinococcus †322.

[†echinococcus *.—S. Africa.] †granulosus.

Mesocestoides < †299.

species Joyeux & Mathias, 1926.— Harar, Abyssinia.—"Chacal à manteau sp.", probably *Canis* mcsomelas. Multiceps †324.—Small intest. †multiceps.—S. Africa.

Taenia r †325.—Small intest.

crythraea.—Massaua ^t, Eritrea, N. E. Africa.—T. h.

Taenia (Taenia) †325b.—Intest.

†hydatigena. †marginata •.

Ancylostoma †387.—Intest.

†*caninum.—Phila. Zoo.

43398-35-14

Chlamydenema 470I.

felineum 8.

Haemaphysalis †869.—Ext.

†leachi.—Africa.

Ctenocephalides †1639.—Ext.

†canis.

Pulex †1635.—Ext. †irritans.—S. Africa. Tunga †1631.—Ext. [species Roths.—Wante t.]

#479 Canis ¹ (#479C Canis ¹) mexicanus Linn., 1766, Syst. Nat., ed. 12, 60. Mexican timber wolf, mexikanische Wolf, Lobo. Southern Mexico ¹.

Aneylostoma †387.—Intest.

†caninum.—Phila. Zoo.

ANCYLOSTOMIDAE †384.—Intest.

species Weidman, 1923.—Phila. Zoo.

Toxocara †484.—Intest.

*canis.—Phila. Zoo.

#479 Canis ¹ mexicanus ¹ nubilus (Say, 1823, Long's Exped. Rocky Mts., v. 1, 155, 333) Rhoads, 1894, Amer. Nat., v. 28 (330), June, 524. So. #479 Canis ¹ nubilus, q. v.

#479 *Canis | (Canis |, #479D Thos |) nebracensis Merriam, 1898, Sci., n. s., v. 8 (205), Dec. 2, 782, renaming of pallidus | Merriam, 1897 [not pallidus Cretzschmar in Rueppell, 1827]. Johnstown | Nebraska; Great Plains from eastern Colorado northward into Canada, and is common throughout Montana except in the Mountains. Two subspecies. Syn. nebrascensis | Troucss., 1904, Mamm., Berolini, 230.

Multiceps †324.—Intest.

 \dagger *multiceps.

Taenia (Taenia) †325b.—Intest.

 $\dagger*pisiformis.$

Toxocara †484.—Intest.

[*species Hall, 1912.—Colorado.]

#479 *Canis¹ (Canis¹, Lyciscus s, #479D Thos r) nebracensis nebracensis (Merriam, 1898, Sei., n. s., v. 8 (205), Dec. 2, 782) Miller, 1912, U. S. Nat. Mus., Bul. 79, 79. Nebraska Coyote. Johnstown t, Brown Co., Nebraska; arid plains from eastern Colorado to Montana and Assiniboia.

Rietularia 459R.

*splendida.—Small intest.—Colorado.—T. h.

#479 *Canls 1 (#479D Thos r) nebracensls texensis Bailey, 1905, North Amer. Fauna, no. 25, Oct. 24, 175. Texas Coyote. Forty-five miles southwest of Corpus Christi t, Nueces Co., Texas; Gulf region of Texas from Nueces Bay northward; probably throughout the lower Sonoran area of Texas, Oklahoma and Indian Territory.

#479 *Canls ¹ (#479C Canls ^r) nubllus Say, 1823, Long's Exped. Rocky Mts., v. 1, 155, 333. Dusky wolf. Western U. S. A. (Vicinity of Council Bluffs ^t,

Iowa t).

Aneylostoma †387.—Intest.

†*caninum.—Phila. zoo.

#479 Canls [or Lupus] (#479C Canls) occidentalls (Richardson, 1829, Fauna Bor.-Amer., London, 60 [Canis | lupus]) Grevé, 1894, Nova Acta Acad. Leop., Halle, 114. Grey wolves, timber wolves. Canada from the plains of Saskatchewan to the Arctic coast ; name restricted by Miller to the form occurring at Fort Simpson, Mackenzie.

#479 Canis ¹ pallidus Cretzsehmar, 1827, in Atlas zu Rueppell, Reise (Senekenb. Nat. Ges.) Säug. (5), 33. Kordofan. So. #485 Vulpes pallidus, q. v.

#479 *Canis | pallidus | Merriam, 1897, Proc. Biol. Soc. Wash., v. 11, Mar. 15,
 24 (not pallidus Cretzschmar in Rneppell, 1827), renamed nebracensis.
 Johnstown | Nebraska. So. #479 Canis | nebracensis, q. v.

#479 Canis ¹ [or Lupulus ¹, Lupus ⁸] (#479C Canis ¹) pallipes Sykes, 1831, Proc. Zool. Soc. London, 101. Indian Wolf, wolf of Dukhun, Bagyár, Bhagad, Bheriya, Bighána, Gúrg, Hondár, Lándgá, Landgah, Nekra, Tola, Toralú. Dukhun ¹; India; Arabia.

Aneylostoma †387.—Intest. †caninum. †ceylanicum.

Toxoeara †484.—Intest. †canis. †marginata °. Haemaphysalis †869.—Ext. bispinosa.—India. bispinosa intermedia.

#479 Canis 1 papillipes. Lapsus for #479 Canis 1 pallipes, q. v.

#479 Canis 1 pardus. Lapsus for #413 Felis pardus, q. v.

#479 Canis ¹ [vulpes] pennsylvanica ^e Boddaert, 1784, Elench. Anim., Roterodami, v. 1, 97. So. #485 **Vulpes** pennsylvanica ^e, q. v.

#479 "Canis persica?" ?Cf. #485 Vulpes persicus 3.

Rhipicephalus †875.—Ext. †sanguineus.

#479 Canis 1 primaevus 1 Hodgson, 1832, J. Asiatic Soe. Bengal, v. 1, 342. So. #476 Cuon primaevus 1, q. v.

#479 Canis ¹ [or #479E Nyetereutes ¹, Nyetoraetes ^m, Sacalius ¹] (Vulpina ¹) procyonoides Gray, 1834, Illus. Indian Zool., v. 2 (13, 14), Mar., pl. 1. Long haired raccoon dog, raccoon-like dog, raecoon-like wild dog, Marderhund, Rakuhnhund, Tanuki. China; Japan. Syns.: procynoides ², procyonides ³.

Paragonimus †250.—Lung. †westermani.—Japan.

Cysticercus †326.

species Penrose, 1882.—Peritoneum.

Diphyllobothrium †295.—Intest.

#479 Canis¹ rostratus.

Dipylidium †308.—Intest. echinorhynchoides °.

#479 Canis 1 (#479C Canis r) species.

Anaplasma †172 S.—Blood.

[species Yakimoff & Schokhor, 1917, 306: "anaplasmes".—Russian Turkestan.—Wolf.]

Babesia †173.—Blood.

gibsoni.—Host bazaar dogs exp.

[species Yakimoff & Schokhor, 1917, 305–306 [resembles *Piroplasma canis*].—Termese, Russian Turkestan.]

tropica.—India.—Pariah dog. Hepatozoon < †165.—Blood.

canis.—Assam.—Pariah dog.

Ascaris 1 †479.

species Onji, 1921.—Intest.—Japan.

Strongylus 1 †378a.

species Onji, 1921.—Intest.—Japan.

Trichodectes †1100.—Ext.

†canis.

Wolves and dogs proper.

Plasmodium †170.—Blood.

canis.—Colombo ^t, Ceylon.—Pariah dogs t. h.

Theileria †174.—Blood.

species Yakimoff & Schokhor, 1917, 306 ["Theiléries"].—Tashkent, Russian Turkestan.—Wolf.

Alaria $\leq \dagger 223j$.

alata.—Poland.—Also exp.—Wolf.

Haplorchis < †271.

pumilio.—Exp.—Wolf.

Heterophyes †272.

acqualis.—Persian wolf.

dispar.—Persian wolf. Capillaria †372b. persicus s.—Intest.—Zoo, Berlin, plica. Germany.—Persian wolf t. h. Crenosoma $\leq †418$. Metagonimus †273. vulpis.—Bronchi. tovatus. Dracunculus †439. †yokogawai.—Syn. yokogawa ^m. †medinensis.—Egyptian wolf. Opisthorchis †267. Dirofilaria †447.—Heart. †caninus s.—Liver.—India t.—Indian †immitis.—Japan.—Japanese wolf. dog, Pariah dog t. h. [sanguinis 8.] †conjunctus. Gnathostoma †473. indicus o.—Kasauli t, India.—Indian robustum.—Pariah dog. dog, Pariah dog t. h. species Braun, 1903.—Calcutta, Innoverca.—India.—Dog. dia. Paragonimus †250. [species Lewis, 1874.—Calcutta, In-†ringeri.—Korea.—Wolf. dia.—Pariah dog.] †wcstcrmani.—Korea.—Wolf. species Morishita & Faust, 1925.— **P**arascocotyle <†271. China. longa.—Persian wolf. †spinigerum. Pygidiopsis <†271. Toxascaris †486.—Intest. genata.—Berlin Mus.—Persian wolf. lconina.—Phila. Zoo.—Dog. Toxocara †484.—Intest. Avitellina 318a8. †marginata.—Wild wolf. lahorea.—Punjab, India.—Dog i. Uncinaria 390B.—Intest. Diphyllobothrium †295.—Intest. species Weidmann, 1916.—Phila. latum.—Lausanne, Switzerland.— Zoo.—Gray wolf. "Chien loup." Amblyomma †881.—Ext. Dipylidium †308.—Intest. †*americanum. [cateniformis 1 s from wolf.] †maculatum. örleyi.—Punjab, India.—Pariah dog. Boophilus †878. [prismatica *.—Canis t. h.] australis.—Wolf. sexcoronatum.—Punjab, India.—Pa-Dermacentor †873.—Ext. riah dog. †*variabilis. walkeri.—Punjab t, India.—Pariah Haemaphysalis †869.—Ext. dog t. h. bispinosa intermedia.—India.— Echinococcus †322. Wolf. [†echinococcus *.] campanulata.—India. †granulosus.—Punjab, India.—Parichoprai.—India t.—Wolf t. h. ah dog. cornigera anomala.—Nagpur t, In-Mesocestoides < †299.—Intest. dia.—T. h. elongatus.-Wolf t. h. Ixodes †866.—Ext. Multiceps †324.—Intest. australicnsis. coenurus o. *californicus. †multiceps.—Lahore, India.—Dog. hexagonus inchoatus. Taenia r †325.—Intest. *kingi.—Wyoming. canina h & Bloch, 1782a.—Wolf. luteus.—S. Africa. Taenia (Taenia) †325b.—Intest. Rhipicephalus †875.—Ext. †hydatigena.—Punjab, India.—Pari-†sanguincus.—Wild dog. ah dog. Ctenocephalides †1639.—Ext. †canis.—Sumatra.—Dog. ovis.—Punjab, India.—Pariah dog. Ancylostoma †387.—Intest. †fclis.—Samoa.—Dog. †brasiliense.-Wolf. Hippobosca †1617.—Ext. capensis.—Pariah dogs. tcculanicum.—Muktesar.—Pariah

†duodenale.—Lucknow.—Pariah dog.

francilloni *.--Korea.--"Japanese

dog."

#479 Canis 1 (#479M Cerdocyon) species. Crab-eating dogs.

#479 Canis 1 (#479G Chrysocyon) species. Aguara wolves.

#479 Canis ¹ (#479K Dusicyon) species. Falkland dogs.

#479 Canis 1 (#4791 Lycalopex) species. Small-toothed dogs.

#479 Canis 1 (#479E Nyetereutes) species. Raccoon dog.

#479 Canis 1 (#479D Thos) species. Coyotes, jackals, small prairie wolves, chacal, Schakal.

Leishmania †SS. †donovani.—Exp.

Trypanosoma †94.—Blood. †gambiensc.—Exp.

Nanophyetus < †271.

*salmincola.—Northwestern U.S. A.—Coyote.

Dipylidium †308.—Intest. †caninum.—Asiatic chacal. echinorhynchoides.—W. Africa.— Chacal.

Echinococcus †322.

[†cchinococcus *.—Schakal.] †granulosus.—Jackal.

Taenia (Taenia) †325b.—Intest. †hydatigena.—W. Africa.—Chacal. †marginata *.—Jackal. †pisiformis.—Jackal.

Ancylostoma †387.—Intest. †caninum.—Jackal.

Dracunculus †439.

†medinensis.—India or Egypt?

Oslerus 473D.

*osleri.—Texas Zoo.—Coyote.

Rictularia 459R. affinis.—Intest.—Algeria.

#479 Canis 1 species 1 (miscellaneous).

Amblyomma †881.—Ext. exornatum.

Boophilus †878.—Ext. australis.

Haemaphysalis †869.—Ext. †lcachi.—Congo.

papuana.—Borneo, Malay States.

Hyalomma †880.—Ext. †aegyptium.

Rhipicephalus †875.—Ext. †sanguineus.—Wild dog.

Spirocerca 468G. sanguinolenta.

Toxocara †484.—Intest. †marginata.—Wild jackal.

Oncicola †501o.

*canis.—Coyote i.

Amblyomma †881.—Ext. †cajcnncnse.—Coyote.

darlingi.

†varicgatum.—Africa.—Jackal.

Dermacentor †873.—Ext. †*variabilis.—Coyote. **variation dermatical production of the standard of the standa

†*venustus d.—So. †andersoni.— Coyote.

Haemaphysalis †869.—Ext.

flava.—United Prov., India.—Jackal. †lcachi.—Congo, Africa.—Jackal.

Rhipicentor †874.—Ext.

bicornis.—Belgian Congo; S. Africa.

Rhipicephalus †875.—Ext.

hacmaphysaloides.—India.—Jackal.

Heterodoxus < †1097.—Ext. longitarsus.—Jackal.

Hoplopsyllus †1628.—Ext.

†anomalus.—Coyote.

Linognathus < †1108.—Ext. piliferus.—Coyote.

Oropsylla < †1626.—Ext. rupestris.—Alberta.

Pulex †1635.—Ext.

†irritans.—Abyssinia.

Trichopsylla < †1626.—Ext.

homoeus.—Ancouza ^t, Central Asia.— T. h.

[lasius.—Ancouza ^t, Central Asia.— T. h.]

Xenopsylla †1636.—Ext. †cheopis.

#479 Canis [or #479M Cerdocyon, Carcinocyon * t, Thous h t] thous Linn., 1766, Syst. Nat., ed. 12, 60. Several subspecies.

#479 [Canis 1] [or #479M Cerdoeyon r, Lycalopex 1, Pseudalopex 1, Thous h, Vulpes 1] (#479M Cerdoeyon, Pseudalopex 1, Thous h) thous azarae (Wied, 1824, Abbild. Naturg. Bras., (6) [Canis 1]) Cabrera, 1931, J. Mammal.,

- v. 12 (1), Feb., 60 [Cerdocyon]. Crab-eating dog of Eastern Brazil. Bahia ; Eastern Brazil, from Cerara to São Paulo, westward to the plateau of Matto Grosso.
- #479 [Canis] [or #479M Cerdocyon] thous thous (Linn., 1766, Syst. Nat., ed. 12, 60) Cabrera, 1931, J. Mamm., v. 12 (1), Feb., 59. Dutch Guiana; Savanna and wood zone of northern South America, from tropical zone of northern Colombia to the mouth of the Amazon.
- #479 Canis ¹ (Lupulus ⁸, #479D Thos) variegatus Cretzschmar in Rüppell, 1826, Atlas Reise nörd Afr., Zool., v. 1, 31, pl. 10. Variegated jackal, Gescheckter Fuchs. Nubia ^t, Egypt; Abyssinia; Somaliland. Var. of Canis anthus, fide Trouess., 1897c, 305; distinct species, fide Trouess., 1904c, 232. Var. of Canis aureus, fide Hollister, 1918, 102.

Rhipicephalus †875.—Ext.

hilgerti.—Abyssinia ^t.—T. h. †sanguineus.

- #479 *Canis 1 velox Say, 1823, Long's Exped. Rocky Mts., v. 2, 339-341. So. #485 Vulpes velox.
- #479 Canis 1 [or #479D Thos 1] vulgaris 3 Oken, 1816, Lehrb. Naturg., 3 Th., Zool., 2 Abth., 1039. So. #479 Canis aureus.
- #479 Canis vulgaris o Gray, 1868, Proc. Zool. Soc. London, 501, renaming of lupus Linn. So. #479 Canis lupus, q. v.
- #479 Canis 1 vulpecula 8 Hemprich & Ehrenberg, 1832, Symb. Phys., Berolini, dec. 1. Nile Valley, Egypt. So. #485 Vulpes vulpes aegyptiacus, fide Anderson, 1902, Zool. Egypt, 227.

Oxynema †488w4. crassispiculum. rectum *.—Egypt.

- #479 Canis 1 vulpes Linn., 1758a, 40. So. #485 Vulpes vulpes, q. v.
- #479 Canis 1 vulpes alopex (Linn., 1758a, 40) Kerr, 1792a, Anim. Kingd., 142. So. #485 Vulpes vulpes vulpes, q. v.
- #479 Canis 1 vulpes pennsylvanica e Boddaert, 1784, Elench. Anim., Roterodami, v. 1, 97. So. #485 **Vulpes** pennsylvanica e, q. v.
- #479 Canis ¹ zerda Zimm., 1780, Geograph. Geschichte, v. 2, 247. So. #483 Fennecus zerda, q. v.
- #480 (479). Otocyon 46 "Lichtenstein" Mueller, 1836, Archiv. Anat. Phys., Med., 1 [nv], mt. caffer Lichtenstein so. (tsd. 1900; 1918) megalotis Desm., S. Africa; Lichtenstein in Wiegmann, 1838, Arch. Naturg., v. 1, 290, mt. megalotis Desm. syns. caffer Licht., lalandii Geoffr.—Teeth 46 or 48: i. 3/3, c. 1/1, pm. 4/4, m. 3 or 4/4; molars are thus in excess of any other living heterodont mammal, and have the general characters as in Canis, with very pointed cusps; lower carnassial shows little of its typical characters, having 5 cusps on the surface; these cusps can, however, be identified as the inner cusp, the 2 greatly reduced and obliquely placed lobes of the blade, and the 2 cusps on the talon. Skull generally resembles that of the smaller Foxes, particularly the Fennecs; auditory bullae are very large; hinder edge of mandible of very peculiar form, owing to great development of an expanded, compressed, and somewhat inverted subangular process; ears very large. Vertebrae: C. 7, D. 13, L. 7, S. 3, Cd. 22. Limbs rather long. Toes 5 on front feet, 4 on hind feet. S. Africa.

⁴⁶ Syns.: Agriodus o Ham. Smith, 1840, Jardine's Nat. Lib., Mamm., v. 10, 258, mt. tod. auritus so megalolis Desin., Cape of Good Hope;

Octoeyon • Ameghino, 1889, Act. Acad. Nac. Cien. Cordoba, Buenos Aires, v. 6, 311.

#480 Otocyon megalotis (Desm., 1822, Encycl. méth., Manni., (2), 538 [Canis 1]) Lesson, 1842, N. Tab. Règne Anim., Nov., 39. Cape Fennec, Delalande's fox, Desert fox, great-eared fox, large-eared Cape dog, long-cared fox, Löffelhund, Bakoor (basin-eared) jackal, Motlose. Western S. Africa through Central Africa to Somaliland.

Dipylidium †308.—Intest. †caninum.—S. Africa. Lüheella < †285.—Intest.

pretoriensis.—Pretoria, S. Africa t.—

Ancylostoma †387.—Intest. trigonocephalum ^d.

Oxynema †488w4.—Intest.

crassispiculum.

rectum *.—Egypt.

Rhipicephalus †875.—Ext.

†sanguineus.

Ctenocephalides †1639. †canis.

- #481 (471). Vulpine or Alopecoid series as of Flower & Lydekker, 1891a, 552, and Lydekker, 1911, Encycl. brit., v. 5, 371.—Foxes. Pupil vertical, elliptical. Postorbital process of frontal bone hollowed above, with its outer margin (particularly of anterior border) somewhat raised; frontal air sinus absent. Mammac 8 or 10. N. America, Eurasia, Africa, not South America. Essentially subgenus Vulpina as of Leunis, 1883a, 190; section Vulpinae of Gray, 1868, 494. See #482.
- #482 (487). Foxes.—Tail elongate, reaching to ground, bushy, covered with abundance of soft hair, forming a brush; with a gland covered with coloured hair on the upper part, gland above the base. Eyes often nocturnal with oblong erect pupils. Skull very long. Upper carnassials compressed, 3-lobed, with a small tubercle on front part of inner side. See #483.
- #483 (484). Fennecus ⁴⁷ Desmarest, 1804, Nouv. Dict. Hist. nat., ed. 1, v. 24, 18 [nv], tsd. (1904) arabicus so. cerdo Gmel. in Linn., Africa.—Ears extraordinarily large, elongate, hairy, spreading; bullae of cars very large, thin, swollen and rounded below; temporal muscles separated from each other by a very wide urn-shaped crown to the occiput; pupil roundish(?); skull elongate; braincase ovate; upper premolars compressed; carnassial compressed, with small internal process in front; tubercular grinder much wider than long. Tail elongate, bushy, covered with soft hairs. Africa.
- #483 Fennecus brucei o Desm., 1820, Encycl. méth., Mamm., pt. 1, 235, renaming of zerda. So. #483 Fennecus zerda, q. v.
- #483 Fennecus [or Megalotis t, Otolicnus h t, Vulpes h t] (Lupina l) cerdo c (Ginel. in Linn., 1788, Syst. Nat., ed. 13, v. 1, 75 [Canis l]) Children in Denham & Clapperton, 1826, Narr. Trav. Africa, App., 184. Fennec fox, Fennek, Grossohrfuchs, Wüstenfuchs. Africa (Sahara Desert l). Syn. Megalotis cerda lilliger, 1811. So. #483 Fennecus zerda, q. v.
- #483 Fennecus dorsalis (Gray, 1837, Proc. Zool. Soc. London, 132 [Canis (Vulpes)]) Trouess., 1897c, Cat. Mamm., Berolini, v. 1, 313. African fox. So. #485 Vulpes dorsalis, q. v.
- #483 Fennecus [or Megalotis, Vulpes b] famelicus (Cretzschmar in Rueppell, 1826, Atlas Reise nörd Afr., Zool., v. 1, 15, pl. 5 [Canis l]) Lesson, 1842, N.

⁴⁷ Syns.: Megalotis Illiger, 1811, Prod. Syst. Mamm. et Avium, 131, mt. cerda ^m Illiger so. cerdo Gmel. in Linn.;

Otolienus b Fischer, 1814, Zoognosia, v. 3, 212–214, mt. cerdo; [not Otolienus Illiger, 1811, primate]; Vulpes b Skjöldebrand, 1777, K. Vetensk. Acad. Handl., Stockholm, v. 38, 265–267, pl. 6, mt. minimus saarensis b (from Sahara t) so. (tsd. 1904) cerdo [not #485 Vulpes Frisch, 1775, foxes].

Tab. Règne Anim., Nov., 39. Rüppell's Fennee, Sabbar. Africa (Kordofan ^t); Asia.

Oxynema †488w 4.—Intest.

crassispiculum.
rectum s.

Synosternus <†1634.—Ext.
†pallidus.—Lower Egypt.

#483 Fennecus species.

Aneylostoma †387.—Intest. †caninum. Physaloptera 470H. ccsticillata.—Stomach.

#483 **Fennecus** [or *Megalotis*, Vulpes h] (*Megalotis*) **zerda** (Zimm., 1780, Geograph. Geschichte, v. 2, 247 [Canis l]) Lesson, 1842, N. Tab. Règne Anim., Nov., 39. N. African fennec fox, Fennek. Deserts, N. Africa. Syn. Fennecus zerdo m Grevé, 1894, Nova Acta Acad. Leop., Halle, 138. Cf. cerdo.

Alaria < †223j.
alata.—Intest.
Dipylidium †308.—Intest.
†caninum.
echinorhynchoides e.—Nubia t, N. E.
Africa; Cairo, Egypt.—T. h.
Ancylostoma †378.—Intest.

†*caninum. trigonocephalum d s.—Egypt. Oxynema †488w4.—Intest.

Physaloptera 470H.

crassispiculum.—Egypt.—Ceeum. rectum s.

cesticillata.—Stomach.—N. Africa.
Streptopharagus 468C.
numidicus.—Stomach.—S. Tunisia t.—T. h.

Toxocara †484.—Intest. [masculior.—T. h.] Uncinaria 390B.—Intest. stenocephala.

Macracanthorhynchus †508. †hirundinaceus m, for hirudinaceus.

Prosthenorehis †501p.

pachyacanthus.—Intest.—Egypt.

spirula.

Ctenocephalides †1639.—Ext. †canis. †felis. [†serraticeps o.—Tunisia.]

Pulex †1635.—Ext. †irritans.—Egypt.

#484 (483). Ears not extraordinarily large. Temporal crests of skull linear or nearly linear. See #485.

#485 (486). *Vulpes Oken, 1816, Lehrb. Naturg., 3 th. Zool., Abth. 2, 1033, 1034, tat. Canis¹ vulpes Linn. syn. Vulpes vulgaris; or Vulpes Bowdieh, 1821, Anal. Nat. Classif. Mamm., 40, tat. Canis¹ vulpes; compare Vulpes Skjöldebrand, 1777, based on Canis cerdo, fide Palmer.—Foxes. Build slight. Postorbital processes distinctly concave above; forehead rising gradually above level of rostrum; ear pointed; temporal crests of skull linear or nearly linear; no frontal sinus; muzzle long; nasal bones do not extend so far back on the face as the maxillaries; bullae of ear-bones moderate, oblong, strongly keeled, angular; teeth 42 (i. 3/3, c. 1/1, pm. 4/4, m. 2/3); ears moderate, erect, acute; pupil vertically elliptical in a strong light. Tail always considerably more than half length of head and body; covered with long, soft hairs uniformly mixed. America; Asia; Europe. Syn. Vulpis man, 1926, Ind. J. Med. Res., v. 14 (1), 243.

- #485 Vulpes aegyptiaca (Sonnini, 1816, Nouv. Dict. Hist. nat., v. 6, 524 [Canis]) Trouess., 1899, Cat. Mamm., Berolini, 1362. So. #485 Vulpes vulpes aegyptiaca, q. v.
- #485 *Vulpes (Vulpes) alascensis Merriam, 1900, Proc. Wash. Acad. Sci., v. 2, Dec. 28, 668. Alaska red fox. N. Alaska (Andreafski, near mouth of Yukon River, Alaska ^t).

Trichodectes †1100.—Ext. species Baker.—N. Alaska.

#485 Vulpes (Vulpes) alopex (Linn., 1758a, 40 [Canis]) Ham. Smith, 1840, Nat. Lib., v. 28, June, 240. Common fox, Brandfuchs, Kashnuri, Laash (2), Lomri, Luh (3), Rubah, Wamu. Europe; Asia. So. #485 Vulpes vulpes.

#485 Vulpes (Vulpes) alopex japonica (Gray, 1868, Proc. Zool. Soc. London, 517) Trouess., 1897e, Cat. Mamm., Berolini, v. 1, 309. Japan. So. #485

Vulpes vulpes japonica, q. v.

#485 Vulpes alpherakyi Satunin, 1905, Mitt. Kaukas. Mus., Tiflis, v. 2 (1), 46, 71. East Transcaucasia ^t.

Ctenocephalides †1639.—Ext. †canis.—Tiflis Region, Caucasus.

#485 Vulpes americana. This is probably for the American fox, Vulpes fulva.

Dioctophyme †426.
†gigas *.

#485 Vulpes atlantica (Wagn., 1841, Reisen Regentsch. Algier, v. 3, 31 [nv] [Canis¹ vulpes]) de Winton, 1897, Proc. Zool. Soc. London, 957. So. #485 Vulpes vulpes atlantica, q. v.

#485 Vulpes ¹ azarae (Wied, 1824, Abbild. Naturg. Bras., (6), 338 [Canis ¹]) Lesson, 1842, N. Tab. Règne Anim., Nov., 42. So. #479 Canis ¹ thous azarae, q. v.

#485 Vulpes [or Cynalopex ¹, Vulpis m] (Vulpes) bengalensls (Bechstein in Pennant, 1799, Uebers. vierfüss. Thiere, v. 1, 273 [Canis ¹]) Gray, 1843, List Mamm. Coll. Brit. Mus., 61. Bengal Fox, Common Indian Fox, Indian Wolf, bengalische Fuchs, Chándak-Nari, Gúnta-Nakka, Kemp-Nari, Khakri, Khekar, Khekri, Khek-siyal, Khikir, Koka, Kokri, Kónk, Konkanakka, Kunní-Nari, Lhal, Lokri, Lom, Lomri, Lonkdo, Lukhariya, Lúmri, Poti-nara. India ("Bengal" ¹).

Hepatozoon < †165.—Blood. canis.—Leucocytes.—Madras.

Ancylostoma †387.—Intest. †eaninum.

Physaloptera 470II.

species Baylis & Daubney, 1922.— Stomach. Toxascaris †486.—Intest. leonina.

Toxocara †484.—Intest.

†canis.

 $\dagger marginata$ °.—India.

Xenopsylla †1636.—Ext. †astia.—India.

#485 *Vulpes (Vulpes) cascadensis Merriam, 1900, Proc. Wash. Acad. Sci. v. 2, Dec. 28, 665. Cascade Mountains Fox. Trout Lake, Cascade Mountains, Skamania Co., Washington t; Cascade Range in Oregon and Washington, and northern Sierra Nevada in California; northern limit unknown.

Trichodectes †1100.—Ext. quadraticeps.

#485 Vulpes ^h cerdo Palmer, 1904a, North Amer. Fauna, no. 23, 708. So. #483 **Fennecus zerda**, q. v.

#485 Vulpes [or Fennecus] (Vulpes) chama (Smith, 1833, S. Afr. Quart. J., v. 2, no. 1 (3), Dee., 89 [Canis]) Sclater, 1900, Mamm. S. Afr., London, v. 1, 98. Cama fox, Silver-backed Jaekal, silver fox, Draai Jakhals, Vaal Jakhals, Basuto-Mopheme. Africa south of Zambesi (Namaqualand). Syns.: Canis | caama | Smith, 1837, Cat. S. Afr. Mus., 19; Vulpes chaama | Grevé, 1894, Nova Acta Acad. Leop., Halle, 137.

Echinococeus †322.—Small intest. †granulosus.—S. Africa.

#485 **Vulpes** [or Fennecus 1] (*Vulpes*) **dorsalis** (Gray, 1837, Proc. Zool. Soc. London, 132 [Canis 1 (*Vulpes*)]) Trouess., 1904, Cat. Mamm., Berolini, 237. African fox.

Babesia †173.—Blood.

bauryi.—Senegal, Africat.—T. h.

Dipetalonema †453.

dracunculoides.—Blood.

#485 Vulpes [or Canis ', Cynalopex '] (Vulpes) ferrilatus Hodgs., 1842, J. Asiat. Soc. Bengal, v. 11, 278, pl. 1. Small Tibetan Fox, Igar, Igur, Lokri. Lhassa ', Tibet. Syn. ferritatus m.

Mesocestoides < †299.—Intest.

mesorchis.—London Zoo, from Nepal^t.—T. h.
Taenia ¹ < †299.

retracta.

#485 Vulpes (Vulpes) ferrilatus eckloni (Przewalski, 1884, Reisen in Tibet, Jena, 111 [Canis 1]) Trouess., 1897c, Cat. Mamm., v. 1, 311. Tibet Fox. Tibet t.

Taenia 1< †299.

retracta.—? Tibet.—T. h.

#485 *Vulpes (Vulpes) fulva (Desm., 1820, Encycl. méth., Mamm., (1), 203 [Canis 1]) DeKay, 1842, Nat. Hist. N. Y., Mamm., 44. Black fox (color phase), Cross fox (intermediate phase), red fox, Silver fox (color phase), Rothfuehs. Virginia t; Northeastern United States. There seems to be a possible host confusion between #485 fulva and #486 lagopus. Accordingly, in tracing the parasites for either species, both entries should be consulted.

Alaria $< \dagger 223j$.

*arisaemoides.—Attached to gut wall in region of jejunum.—Massachusetts t.—T. h.

Cryptocotyle †271F.

lingua.—Host reported as Vulpes fusca, lapsus for ?Vulpes fulva.

Nanophyetus <†271.

*salmincola.—Exp.

Opisthorchis †267.—Liver.

†conjunctus.—America t.—T. h.

Parameteris <†265.

*intermedius.—Gall bladder.—Wisconsin t.—T. h.

Pseudamphistomum †270.

[conus *.—Ameriea.]

ANCYLOSTOMIDAE †384.—Intest.

species Weidman in Fox, 1923.—Phila. Zoo.

Capillaria †372b.

*plica.—Kidney, urinary bladder.— New Jersey.

Eucoleus $\leq †369$.

aerophilus.—Bronchi.—Canada.

Toxascaris †486.—Intest.

limbata.—Canada.

Toxoeara †484.—Intest.

†*canis.

cati.—Canada.

†*marginata.—Canada.

Triehuris †370.—Intest.

vulpis.

Uncinaria 390B.—Intest.

polaris.—Canada.

species Weidman in Fox, 1923.— Phila. Zoo.

stenocephala.

Otodectes †944c.—Ext. cynotis.—Ears.—Canada.

Sarcoptes †942.

scabici vulpis.—Canada.

#485 Vulpes japonica Gray, 1868, Proc. Zool. Soc. London, 517. So. #485 Vulpes vulpes japonica, q. v.

#485 Vulpes ¹ lagopus (Linn., 1758a, 40 [Canis ¹]) Ham. Smith, 1840, Nat. Lib., v. 28, June, 236. So. #486 Alopex lagopus.

#485 Vulpes [or Canis 1] (*Vulpes*) leucopus Blyth, 1854, J. Asiatic Soc. Bengal, v. 23 (7), 729. Indian desert Fox, Small Desert Fox, Lokri, Lombar, Lúmri, Rubah. Asia ("Desert of Western India").

Ancylostoma †387.—Intest.

†caninum.

Rhipicephalus †875.—Ext.

 $\dagger sanguincus.$

#485 Vulpes melanogaster * (Bonaparte, 1832, Iconogr. Faune Ital., (1) [Canis 1])
Bonap., 1845, Atti 6 Ruin. Sci. Ital., 328. So. #485 Vulpes vulpes melanogaster *, q. v.

#485 **Vulpes** *nilotica* (Desmarest, 1820, Eneyel. méth., Mamm., (1), 204 [Canis ¹])
Ham. Smith, 1840, Nat. Lib., v. 28, June, 248. So. #485 **Vulpes vulpes**

nilotica, q. v.

#485 Vulpes [or Cynalopex ¹, Fennecus ¹, Megalotis ¹] (Vulpes) pallida (Cretzschmar, 1827, in Atlas zu Rueppell, Reise (Senckenb. Nat. Ges.) Säug. (5), 33 [Canis ¹]) Boitard, 1843, Dict. Univ. Hist. Nat., v. 3, 562. Blässfuchs. Dongola, Somali (Suakim).

Ctenocephalides †1639.—Ext.

felis strongylus.—Kulme, Africa.

#485 *Vulpes (Vulpes) pennsylvanica • (Boddaert, 1784, Elench. Anim., Roterodami, v. 1, 97 [Canis | vulpes]) Rhoads, 1894, Amer. Nat., v. 28, June, 524. American Red Fox. Virginia •. So. #485 Vulpes fulva, q. v.

#485 **Vulpes** persica ⁸ Blanford, 1875, Ann. Mag. Nat. Hist., ser. 4, v. 16, 310. Rú-báh. Persia ^t. So. Vulpes leucopus, fide Trouess., 1897c, 312.

#485 Vulpes rüppelli caesia Thomas & Hinton, 1921, Nov. Zool., v. 28, May, 5. South side Mt. Baguezan, Asben, Northern Nigeria, Africa ^t.

Synosternus < †1634.—Ext.

†pallidus.—Africa.

#485 Vulpes species. Foxes, Renard.

Coccidium 1 †163A.

[species Efimoff in Rastégaïeff, 1929: "Coccidies."—Feces.—E. Siberia.]

Isospora †161.

†*bigemina.—Minnesota.—Syn. bigmenina ^m Riley, 1921, Parasitol., v. 13 (1), Mar., 87.

species Triffitt, 1927.—Feces.—London from Prince Edward Id., Canada.

Theileria †174.—Blood.

species Yakimoff & Schokhor, 1917, 309: Theilérièse.—Termese, Russian Turkestan. Treponema 1 †142f.

†icterohaemorrhagiae.

[hispanicum marocanum.— Blood.—Recurrent fever.— Algeria.—Reservoir host.]

[regaudi.]

Trichomonas †131.

*species Chandler in Riley, 1921.— Michigan, U. S. A.

Trypanosoma †94.—Blood.

†brucci.—Nagana.—Also exp. †gambiense.—Exp.

Alaria < †223j.—Intest. alata.—America; Europe. Catatropis < †225e. verrucosa. Cryptocotyle †271F.—Intest. lingua.—Silver fox. Distoma <†238. intestinalis vulpis p. Echinochasmus †262.—Intest. species Allen & Wickware, 1922.— Canada.—Silver black fox. Heterophyes †272. †heterophyes.—Egypt; Orient.—Fox and Palestinian fox. Metorchis †267i. albidus.—Gall bladder, liver. Nanophyetus < †271. *salmincola.—Northwestern U. S. A. Opisthorchis †267.—Liver. conjunctus.—American fox. †felineus. †noverca.Paragonimus †250.—Lungs. †ringeri.—Korea. †westermani.—Korea. Parascocotyle < †271.—Intest. longa.—Canada.—Silver black fox. Pseudamphistomum †270.—Liver. †truncatum.—Europe. ANOPLOCEPHALINAE †318. species Galli-Valerio, 1930.—Ova in feces.—Switzerland. Cysticercus †326. vulpis.—Europe.—Vulpes t. h. Diphyllobothrium †295.—Intest. †*latum.—China; Europe; N. America. Dipylidium †308. [cateniformis *.] Echinococcus †322. †granulosus.—England.—Exp. Mesocestoides < †299.—Intest. lineatus.—Europe. litteratus.—Europe t.—Fox t. h. utriculiferus . Taenia ^r †325.—Intest. canina h s.—Europe. crassiceps. crataegaria. polyacantha. Taenia (Taenia) †325b.—Intest.

†pisiformis.—England, Europe.

Tetrabothrius <†299.

vulpis.—Fox t. h. Tetrathyridium $\leq †284a$.

Ancylostoma †387.—Intest. $\dagger caninum.$ trigonocephalum d. ANCYLOSTOMIDAE †384.—Intest. species Weidman in Fox, 1923.-Newfoundland. Capillaria †372b. plica. Cylicospirura 468f. subaequalis.—Stom.—Algeria. Dioctophyme †426. †gigas 8. †*rcnale.—Europe; U. S. A. Eucoleus $\leq \dagger 369$. aerophilus. Filaria | †435. [intestinum.—Not a specific name.— See Fil. vulpis.] vulpis.—Abdomen. Numidica †488A'1. numidica.—Algeria. Ollulanus < †411 tricuspis. Oxynema †488w4. crassispiculum. Rictularia 459R. affinis.—Egypt. plagiostoma. Spirocerca 468G. sanguinolenta.—In tumors of stomach and esoph. Embryos in blood. Spirura 468e. gastrophila .-- Algeria. Strongyloides †355.—Intest. †longus .- Russia. Strongylus †378a. vulpis b.—Mesenteric glands. vulpis glandularis a.—Vienna. vulpis oesophagcus.—M. C. V. Toxocara †484.—Intest. †canis.†marginata °. triquetra .--Europe. *vulpis. Trichinella †366. †spiralis.—Fox. Trichuris †370.—Intest., cecum. *dcpressiusculus. Uncinaria 390B.—Intest. *stcnoccphala.—N. America.—Fur [tetragonocephalus o.—Large and small intest.] elongatum d h s Blumenbach, 1882a. vulpis.—Rectum.

Acarus †924.—Ext. species Müller, 1927.

Amblyomma †881.—Ext.

 $\dagger amcricanum.$

 $\dagger maculatum.$

†striatum.

tuberculatum.

Boophilus †878.—Ext.

†australis.—S. America.—Negative exp.—"Fox."

Demodex †855.—Hair follicles. †folliculorum.

Dermaeentor †873.—Ext.

 $\dagger variabilis.$

Haemaphysalis †869.—Ext.

bispinosa intermedia.—India.

cinnabarina punctata.
†flava.—United Prov., India.

incrmis.

†lcachi .

Ixodes †866.—Ext.

canisuga.

erinacei .

erinaceus °.

 $\dagger *hexagonus.$

hexagonus inchoatus.

*hexagonus longispinosus.—Colorado

*marxi.—Colorado.

†rcduvius .

†ricinus.

Linguatula †800.—Nasal eavities.

denticulata.

†rhinaria *.

†serrata.

Ornithodoros †863.

†marocanus.—In burrows.—Moroc-

Rhipieephalus †875.—Ext.

†haemaphysaloides.—India.—Fox. †sanguineus.—Ceylon, Burma, India.

Cediopsylla < †1634.—Ext.

*inaequalis interrupta.—Calif.t

Ceratophyllus †1627.—Ext.

*poncrus.—Palo Alto t, Calif.—T. h.

Ctenoeephalides †1639.—Ext.

 $\dagger can is.$ —Europe.

Linognathus $\leq \dagger 1108$.—Ext.

*setosus.—Mass.

Paraeeras < †1626.—Ext.

melis.—Europe.

Pulex †1635.—Ext.

tirritans.—Rumania.

Spilopsyllus \leq †1634.—Ext.

cuniculi.—Europe.

Synosternus < †1634.—Ext.

†pallidus.—India.

Tarsopsylla < †1626.—Ext.

[uralensis B.—Altai Mts.]

Trichodectes †1100.—Ext.

vulpis Denny.—Europe.

Triehopsylla < †1626.—Ext. globiceps.—Palacarctic Region.

homoeus.

trichosa.—Europe.

[vulpes o.—Caucasus.—T. h.]

Xenopsylla †1636.—Ext.

eridos.—S. Africa.

#485 *Vulpes (Vulpes) velox (Say, 1823, Long's Exped. Rocky Mts., v. 2, 339-341 [Canis 1]) Audubon & Baehman, 1851, Quadr. N. Amer., v. 2, 13. Kit Fox, Swift Fox. Colorado t; N. America. At least two subspecies.

Isospora †161.—Intest.

*bigemina canivelocis i s.—Western t U. S. A.—So. i I. felis, fide Wenyon, 1926a, 818.—T. h.

Aneylostoma †387.—Intest.

†*caninum.—Phila. Zoo.

ANCYLOSTOMIDAE †384.—Intest.

species Weidman in Fox, 1923.—Phila. Zoo.

Toxocara †484.—Intest.

†*canis.

Uncinaria 390B.—Intest.

*species Weidman in Fox, 1916; 1923.—Phila. Zoo.

? vulpis.

Pulex †1635.—Ext.

†*irritans*.—Alberta.

#485 Vulpes vulgaris · Oken, 1816, Lehrb. Naturg., 3 Th. Zool., 2 Abth., 1034, renaming of vulpes. Gemeiner Fuehs. So. #485 Vulpes vulpes, q. v.

#485 Vulpes (Vulpes, Vulpina) vulpes (Linn., 1758a, 40 [Canis]) Grevé, 1894, Nova Acta Acad. Leop., Halle, v. 63, 123. Common fox of Europe, Fuchs,

gemeiner Fuehs, Rothfuehs, Rafven, rødreven. Europe (Sweden t) into Asia; Africa. Several subspecies.

Eimeria †163.

vulpis.—Switzerland t.—T. h.

Giardia †139.

[vulpis.—Switzerland t.—T. h.]

Isospora †161.

vulpis.—Feees.—S witzerland t.— T. h.

Trypanosoma †94.—Blood. †gambiense.

Alaria < †223j.—Intest. alata.—Germany †.—T. h. vulpis.—Germany †.—T. h.

Distoma < †238.

intestinalis vulpis p.

Euparyphium †257.—Intest. [melis.—Europe.]

 $trigonocephalum \circ.$

Heterophyes †272. †heterophyes.

Paragonimus †250.—Liver. †westermani.—Korea.

Pseudamphistomum †270.

[conus ⁸.—Gall ducts and bladder.] †truncatum.—Gall bladder.

Diphyllobothrium †295.—Intest.

†mansoni.—Larva and adult.— Korea.

Dipylidium †308.—Intest.

 $\dagger can in um.$

echinorhynchoidcs e.-N. Africa.

Echinococcus †322.

†granulosus.—England.

Mesocestoides < †299.—Intest.

lineatus.—Stomach.—Italy.

litteratus.—Europe.

utriculiferus s.—T. h.

Multiceps †324.—Intest.

 $\dagger multiceps.$

†serialis.—Adult.

Taenia 1 < †299.

species Galli-Valerio, 1929.—Fragment in intest.

vulpina.-T. h.

Taenia + †325.—Intest.

crassiceps.—Europe t.—T. h.

crataegaria.-T. h.

ovata.—Padua ^t, Italy.—T. h.

polyacantha.—Giessen t, Germany.—

Taenia (Taenia) †325b.—Intest.

 $\dagger pisi form is.$

serrata canis domestici et -vulpes. [Europe.]

Tetrabothrius <†299.

vulpis.

Tetrathyridium < †284a.

[bailleti.—Syn. railleti m.]

elongatum ^{d h s} Blumenbach, 1882a.— Peritoneum, liver, lungs, abdominal eavity.

Aneylostoma †387.—Intest.

 $\dagger caninum.$

trigonocephalum $^{\rm d}$.

Capillaria †372b.

[canis-vulpis *.—Bladder.]
plica.—Bladder.—Europe.

Crenosoma < †419.

[canis-vulpis *.]

dccoratum *.—Trachea.—Europe.

semiarmatum ·.—Lungs, trachea.—
Vienna Museum from Greifswald.
vulpis.—Lungs, trachea.—Germany ·.—T. h.

Dioctophyme †426.

†gigas *.—Omentum, intest.

Dirofilaria †447.

†immitis.—Heart.—China.

Eucoleus $\leq \dagger 369$.

aerophilus.—Intest., trachea.—T. h.

Filaria 1 †435.

vulpis.—Abdomen.

Habronema †470.

grimaldiae.—Esoph., stom.—Bou-Saâda, Algeria.—Cf. Vulpes vulpes atlantica.

Ollulanus < †411.

tricuspis.—Stomach.

Rhabditis †339.

plicata.

Rictularia 459R.

affinis.—Cairo.

plagiostoma.—Cairo.

Soboliphyme 423B.

baturini.

Spirocerea 468G.

sanguinolenta.—Esoph., stom.; embryos in blood.

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Spirura 46Sc.
                                            thexagonus.
  gastrophila.—Algeria.—Cf. rytiplcuri-
                                            hexagonus inchoatus.
                                            hexagonus longispinosus.
    tes.
  talpac.
                                            reduvius d s.—See hexagonus.
Strongylus 1 †378a.
                                            tricinus.
  vulpis h.
                                          Linguatula †800.—Nasal cavity.
  vulpis b glandularis .- Mesenteric
                                            †scrrata.
    glands.—Vienna Museum.
                                            †tacnioidcs o.
  [vulpis b ocsophageus.—Esoph.]
                                          Rhipicephalus †875.—Ext.
Toxocara †484.—Intest.
                                            †sanguincus.
  †canis.—Phila. Zoo.
                                          Sarcoptes †942.—Ext.
  \dagger marginata \circ.
                                            †scabici vulpis.—Central Europe.
  †mystax °.
                                          Archaeopsylla †1638.—Ext.
  [teres 1 vulpis.]
                                            †crinacci.
  triquetra •. — Stom. — Europe.—So.
                                          Ctenocephalides †1639.—Ext.
     vulpis 1789.
                                            tcanis.
Trichinella †366.
                                            tfclis.
  †spiralis.—Intest., larva in muscles.
                                            [†serraticcps.]
Trichuris †370.
                                          Mesopsylla < †1626.—Ext.
  dcprcssiuscula o.—Cecum, intest.
                                            hcbcs.—S. E. Russia.
  vulpis.
                                          Paraceras \leq †1626.—Ext.
Uncinaria 390B.—Intest.
                                            melis.—Europe.
  criniformis.
                                          Pulex †1635.—Ext.
  *species Weidman in Fox, 1916.—
                                            tirritans.
     Phila. Zoo.
                                          Spilopsyllus <†1634.—Ext.
  stenocephala.
  [tetragonocephalus o.—Europe.]
                                            [goniocephalus o.—Holland.]
                                            leporis.—E. Prussia.
  [vulpinus \circ.]
  vulpis 8.
                                          Tarsopsylla < †1626.—Ext.
Centrorhynchus †501S.
                                            [uralensis *.—Europe.]
  [appendiculatus •.—Stom.]
                                          Trichodectes †1100.-Ext.
  buteonis.
                                            micropus o.—Europe.—T. h.
Caparinia †944b.—Ext.
                                            vulpis Denny.-Great Britain t.-
  vulpis.—Central Europe.
                                              T. h.
Ixodes †866.—Ext.
                                          Trichopsylla < †1626.—Ext.
  †*cookei.—U. S. A.
                                            globiceps.—Europe t.—T. h.
  erinacei *.--Württemberg, Germany,
                                            [vulpes.]
    Europe.
#485 Vulpes (Vulpes) vulpes aegyptiaca (Sonnini, 1816, Nouv. Dict. Hist.
    nat., v. 6, 524 [Canis 1]) Trouess., 1904, Cat. Mamm., Berolini, 235.
    sinia; Egypt.
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Oxynema †488w4. crassispiculum. rectum 8.

Synosternus <†1634.—Ext. †pallidus.—Africa.

#485 Vulpes (Vulpes) vulpes atlantica (Wagner, 1841, Reisen Regentsch. Algier, v. 3, 31 [Canis 1] [nv]) de Winton, 1899, Proc. Zool. Soc. London, 544. Atlas Mountains fox. Africa.

Cylieospirura 468f.

subacqualis.—Stomach.—Algeria.

Habronema †470.

grimaldiae.—Esoph., stom., intest.—Algeria.

Numidica †488A'.

numidica.—Intest., eeeum.—Algeria.

Oxynema †488w4.

crassispiculum.—Ceeum.

Rictularia 459R.

affinis.—Egypt; Algeria.

Spirocerca 468G.

sanguino lenta.

Spirura 468e.

gastrophila .—Esoph., stom.—Algeria.—So. rytipleurites, fide Y. & M., 1926a, 294.

gastrophila.—So. rothschildi.

rothschildi.

Ctenocephalides †1639.—Ext.

†felis.—Tripoli.

#485 Vulpes vulpes cruclgera (Kerr, 1792, Anim. Kingd., 144 [Canis]) Miller 1912, Cat. Mamm. Western Europe, 331. Kreuzfuchs. Thüringen, Germany ; Central and southern Europe from Ireland eastward and from coast of Baltie to Pyrenees, Italy and Greece.

Ctenocephalides †1639.—Ext.

†canis.—Switzerland.

Trichopsylla < †1626.—Ext. homoeus.—Switzerland.

#485 Vulpes (Vulpes) vulpes japonica (Gray, 1868, Proc. Zool. Soc. London, 517) Trouess., 1904c, Cat. Mamm., Berolini, 236. Japan.

Paragonimus †250.—Lungs. †westermani.—Pleura.

#485 Vulpes (Vulpes) vulpes melanogaster ⁸ (Bonaparte, 1832, Iconogr. Faune Ital. (1) [Canis ¹]) Trouess., 1904c, Cat. Mamm., Berolini, 235. Sehwarzbäuchige Fuchs. Neighborhood of Rome, Italy ^t; Sicily, Dalmatia. So. #485 Vulpes vulpes cruclgera, fide Miller, 1912, Cat. Mamm., Western Europe, 331.

Dipylidium †308. [cateniformis *.]

Taenia † †325. crassiceps.

#485 Vulpes (Vulpes) vulpes niloticus (Desmarest, 1820, Encycl. méth., Mamm., (1), 204 [Canis 1]). Nilfuehs. N. Africa, Asia Minor. So. #485 Vulpes vulpes aegyptlaca, fide Trouess., 1904, Cat. Mamm., Berolini, 235.

Heterophyes †272.—Intest.

theterophyes.

Dipylidium †308.—Intest. echinorhynchoides •.

Rietularia 459R.

affinis.—N. Africa.

Pulex †1635.—Ext.

†irritans.—Moroceo.

Synosternus < †1634.—Ext.

†pallidus.—Africa.

[witherbyi *.—Africa.]

#485 Vulpes vulpes vulpes (Linn., 1758a, 40 [Canis]) Miller, 1912, Mamm. W. Europe, 330. Upsala, Sweden *; Seandinavian Peninsula. Most of the parasites have been reported as in #485 Vulpes vulpes, q. v.

#485 Vulpes vulpis d. Lapsus for #485 Vulpes vulpes, q. v.

#485 Vulpes ¹ (Megalotis) zerda (Zimmermann, 1780, Geograph. Geschichte, v. 2, 247 [Canis ¹]) Trouess., 1904, Cat. Mamm., Berolini, 239. So. #483 Fennecus zerda, q. v.

#486 (485). Alopex Kaup, 1829, Entw.-Gesch. Natürl. Syst. Europ. Thierwelt, v. 1, 189, mt. Canis lagopus Linn.—Aretie foxes. Postorbital processes flat or very slightly eoncave above; forchead rising abruptly above level of rostrum; ear rounded; teeth 42 (i. 3/3, c. 1/1, pm. 4/4, m. 2/3); skull short, broad before the orbits. Tail very full and bushy. Fur, of the adult, white; of the young, greyish lead-colour. Soles of feet densely furred. Syns.: Isatis "Cuv." Trouess., 1885, Bul. Soc. d'Études Sei. d'Angers, suppl. to 1884, 68 (as syn. of Leucocyon Gray, 1868); Leucocyon Gray, 1868, Proc. Zool. Soc. London, 495, 521, mt. lagopus Linn.

#486 Alopex ^t [or Vulpes ^t, Leucocyon ^{o t}] (Alopex, Vulpes ^t, Vulpina ^t) lagopus (Linn., 1758a, 40 [Canis ^t]) Miller, 1912, Mamm. W. Europe, 319. Aretic fox, blue fox, polar fox, white fox, Blaufuchs, Eisfuchs, Polarfuchs, Steinfuchs, Fjällräfven, Fjellreven. Lappland ^t; Aretic portions of mainland of Europe and Asia; in Europe south along mountains of Scandinavia to southwestern Norway, and as an occasional visitant as far as southern Sweden; circumpolar. Several subspecies.

Eimeria †163.

mesnili.—Feecs.—Murman Coast ^t, Russia.—T. h.

Alaria < †223j.—Intest. alata.

Apophallus †271P.—Intest.

[*venustus *.—Zoo, Washington, D. C. t.—T. h.]

Cryptocotyle †271F. lingua.

Nanophyetus < †271.

*salmineola.—Exp.

Parascocotyle \leq †271.—Intest.

*longa.—Zoo, Washington, D. C.t—

*nana.—Zoo, Washington, D. C.^t—T. h.

 $\textbf{Diphyllobothrium} ~ \dagger 295. \\ --Intest.$

fuscum.

 $\dagger latum.$

simile.—Greenland t.—T. h.

Mesocestoides < †299.—Intest.

canis-lagopodis 8.—T. h.

 $[lagopodis \circ, \, for \, eanis\text{-}lagopodis.]$

lineatus.—Alaska.

species Hall, 1920.—St. George Island, Alaska.

Multiceps †324.—Intest.

coenurus o.—Intest.

[hyperborea *.—E a s t Greenland '.— T. h.]

†multiceps.

Taenia * †325.—Intest.

ovata.—Padua.

species Hall, 1920.—St. George Island, Alaska.

Ancylostoma †387.—Intest.

†caninum.

trigonocephalum d.

ANCYLOSTOMIDAE †384.—Intest.

species Weidman in Fox, 1923.— Phila. Zoo.

Toxascaris †486.—Intest.

limbata *.—Arctic Region.

Toxocara †484.—Intest.

†canis.—Alaska.

canis-lagopodis s.—So. ? mystax.

†marginata °.—Cf. canis 1782. †mystax.

Trichinella †366.

†spiralis.

Uncinaria 390B.—Intest.

criniformis.

*polaris *.—N. America; Washington Zoo.—T. h.

species Weidman in Fox, 1916.—Phila. Zoo.

stenocephala *.

Spirocerca 468G.

arctica.—Tuniors of stomach.—North Europe, Russia.—T. h.

Ixodes †866.—Ext.

tricinus.

Otodectes †944c.—Ears.

cynotis.

Ceratophyllus †1627.—Ext. †fasciatus.

Ctenocephalides †1639.—Ext.

Trichopsylla < †1626.—Ext. globiceps.

#486 Alopex (Vulpes 1) lagopus innuitus (Merriam, 1902, Proc. Biol. Soc. Wash., v. 15, Aug. 6, 170 [Vulpes 1]) Miller, 1912, U. S. Nat. Mus., Bul. 79, 82. Continental Arctic fox, summit Arctic fox. Alaska (Karogar River, Point Barrow t) to Baffin Bay.

Linognathus <\pi1108.—Ext. setosus.—Cross Id.

#486 Alopex species.

Multiceps †324.—Intest. coenurus °.—Aretic fox.

#487 (482). Bristle-tailed Foxes. Tail elongate, hairy, covered with soft, elongate hair, and with a median eoneealed erest of stiff hairs (bristles) along the upper edge unmixed with soft fur. Temporal muscles separated by a wide flat erown, narrow at occiput. Teeth like Foxes. See #488.

#488. *Urocyon Baird, 1857, Mamm. N. Amer., July, pt. 1, 121, 138, 143, tsd. (1901; 1904) 1st sp. virginianus Erxl. so. cincreoargenteus Schreb., from Eastern U. S. A.—Gray foxes, tree foxes, Colishé. Teeth 42 (i. 3/3, e. 1/1, pm. 4/4, m. 2/3, same as Canis). A supplementary tubercle on the lower sectorial; upper tubercular grinders large, long, and broad. Muzzle short; temporal erests of skull always widely separated; postorbital process thin, spread out, concave above; under-jaw with an angular emargination below; bullae of ear-bones moderate, ovate, swollen. From published records of "gray fox" it is often difficult to determine to which species or subspecies the host belongs. See Urocyon species.

#488 *Urocyon californicus californicus (Mearns, 1897, Proc. U. S. Nat. Mus., v. 20 (1126), 459 [Urocyon cincreoargenteus]) Miller, 1924, U. S. Nat. Mus., Bul. 128, 147. California Gray fox. San Jacinto Mountains, River-

side Co., California ^t.

Mesocestoides <†299. *variabilis.—Mendocino Co.^t, California.

#488 *Urocyon californicus sequoiensis Dixon, 1910, Univ. Calif. Publ. Zool., v. 5 (7), Feb. 12, 303. Lagunitas, Marin Co., Calif. ; humid eoast belt of Calif.

Trichodectes †1100.—Ext. *quadraticeps.—Calif.

#488 *Urocyon cinereoargenteus (Schreb., 1776, Säugthiere, pl. 92 [Canis 1]; Erxl., 1777, Syst. Regni Anim., 567 [Canis 1]) Rhoads, 1894, Amer. Nat., v. 28 (330), June, 524. American gray fox, Kit fox, tree fox, Colishé, Kit-fuchs. Eastern North America t. Syn. cinereoargentatus con Trouess., 1904, Cat. Mamm., Berolini, 239.

Diphyllobothrium †295.—Intest. †latum.

Taenia (Taenia) †325b.—Intest. †pisiformis.

*serrata.—Virginia.—So. pisiformis.

Aneylostoma †387.—Intest. †caninum.

ANCYLOSTOMIDAE †384.—Intest. species Weidman in Fox, 1923.—Phila. Zoo.

Uncinaria 390B.—Intest.
species Weidman, 1916.—Phila. Zoo.
Amblyomma †881.—Ext.

†striatum.—S. America.

Ixodes †866.—Ext. †ricinus.

Ctenocephalides †1639.—Ext.

†*canis.—Calif.

Trichodeetes †1100.—Ext. *quadraticeps.—Calif.*

#488 *Urocyon cincreoargenteus californicus Mearns, 1897, Proc. U. S. Nat. Mus., v. 20 (1126), 459. California Gray Fox. San Jacinto Mountains, Riverside Co., Calif. So. #488 Urocyon californicus californicus, q. v.

#488 *Urocyon cinereoargenteus cinereoargentens (Schreb., 1776, Säugthiere, v. 3, 360 [Canis]; Erxl., 1777, Syst. Regni Anim., 567[Canis]) Miller, 1912, U. S. Nat. Mus., Bul. 79, 86. Eastern North America .

#488 *Urocyon [or Canis 1] cinereoargentens scottii (Mearns, 1891, Bul. Amer. Mus. Nat. Hist., v. 3 (2), June 5, 236 [Urocyon virginianus]) Allen, 1895, Bul. Amer. Mus. Nat. Hist., v. 7, June 29, 253. Scott's grey fox. Pinal Co.4, Arizona; western New Mexico; Southern California.

Toxocara †184.--Intest.

†*canis.

#488 *Urocyon cincreoargenteus sequoiensis (Dixon, 1910, Univ. Calif. Publ. Zool., v. 5 (7), Feb. 12, 303 [U. californicus]). So. #488 Urocyon californicus sequoiensis, q. v.

#488 Urocyon species.

Ixodes †866.—Ext.

*californicus.—Calif.—Grey fox.

#488 Urocyon ^t [or Vulpes ¹] (Vulpes ¹, Vulpina ¹) virginianus ⁿ (Schreb., 1776, Säugthiere, v. 3, 361, pl. 92B [Canis ¹]) Gray, 1868, Proc. Zool. Soc. London, 522. Gray fox, dreifarbiger Fuchs, Grisfuchs, Kitfuchs, Colishé, Oztuhuz, Tigrillo, Zorro. N. America. So. #488 Urocyon ^t cinereoargenteus,

Trichodectes †1100.—Ext.

*quadraticeps.—Palo Alto t, Calif.—T. h.

#489 (408). Auditory bulla not inflated or divided. See #490.

- #490 (554). Mustelidae 48 49 Swainson, 1835, Nat. Hist. Class. Quad., pp. vii, 361.—Badgers, martens, otters, weasels, etc. Alisphenoid canal absent. True molars 1-1 in upper jaw, 2-2 in lower (rarely 1-1, see #541 Poecilogale). Teeth generally: i. 3/3, c. 1/1, pm. 4/4, m. 1/2; the first premolar in many Mustelidae is rudimentary, and is lost early; larger cheek-teeth of a combined trenchant and crushing type, the last upper premolar and first lower molar strongly differentiated as carnassials, the former 3-rooted, its inner lobe in front of middle of crown; upper carnassial with not more than 2 outer cusps. Form usually slender, size moderate or small (including the smallest known carnivores); legs always short; feet digitigrade or subplantigrade; toes 5 on front feet, 5 on hind feet. Essentially cosmopolitan; absent from Madagascar and Australia; in Europe west to Ireland. See #491. Syn. Mustelladae de Gray, 1821, London Med. Repository, v. 15, 301.
- #491 (503). Hind feet larger than fore feet; head, fur, tail, and limbs modified in the normal mammalian fashion for aquatic life; kidneys lobulate. Seg #492.
- #492 (501). Luthinae Burmeister, 1854, Syst. Ueber. Thiere Bras., Mamm., Berlin, 113.—Otters, Ottern. Hind feet with normally proportioned digital (digits 2 and 5 much shorter than 3 and 4). Tail long and highly muscular. External form long and slender; fur very dense. Legs unusually short; feet short, rounded; toes webbed; claws small, curved, blunt, or absent. Basicranial and basifacial axes approximately in one plane; teeth powerful, upper carnassial with talon large, nearly as long as blade; molar

⁴⁹ For a recent classification of the Mustelidae into subfamilies, see Pocock, 1922, Proc. Zool. Soc., London, January, 803-837.

⁴⁹ In a classification of the Mustelidae, Satunin, 1911, Mitt. kaukas. Mus. Tiflis, v. 5 (2-3), 266-286, proposes a new subgenus *Kolonokus* under *Putorius* for the *Mustela sibirica* group. We follow the classification of Miller and Pocock but place the species Satunin gives under *Mustela* (*Kolonokus*).

wider than long, but about as large as earnassial; lower carnassial with long wide heel and large metaconid; skull, much flattened, shaped very much as in the typical Mustelinae (long cranial and short facial portions); eavity of bulla, where known, as in Martinae, but with roof depressed upon auditory annulus and not extending to paroceipital process; palatine foramina maxillary. Habits aquatic. Nearly cosmopolitan; absent only in Antarctic and high Arctic regions, Madagasear, Australia, and Pacific Islands. See #493.

#493 (496). Front claws absent; hind claws 1 and 5 absent, 2 to 4 rudimentary. Head+body over 90 eentimeters long. Africa south of Sahara. See #494.

#494 (495). Aonyx Lesson, 1827, Man. de Mammalogie, Paris, 157, mt. delalandi Lesson, 1827, inunguis Cuv., 1823, renamed, so. (tsd. 1900) capensis Sehinz, 1821.—African clawless otters. Antorbital portion of skull heavily developed, broad, with large incisors and canines, earnassials and molars only moderately developed in proportion to the size of the skull; skull fully 3 times the bulk of that of Micraonyx, which makes the palatal space between earnassials and molars of the maxillary series in Aonyx one and a half times greater than the transverse breadth of m 1. S. Africa. Syns.: Anahyster Murray, "1861" (1863), Proc. Roy. Phys. Soc. Edinburgh, v. 2, 157, mt. calabaricus Murray, from Old Calabar, W. Africa; Anonyx o Agassiz, 1846, Nomenclator Zool., Index Univ., 24.

#494 Aonyx teapensis (Schinz, 1821, Cuvier's Thierreich, v. 1, 214 [Lutra 1])
Allen, 1924, Bul. Amer. Mus. Nat. Hist., v. 47, 91. Large clawless otter.

Africa.

Trypanosoma †94.—Blood.

species Fehlandt, 1911.—Tanganyika.—Host; "Fisehotter."

#494 Aonyx leptonyx (Horsfield, 1823, Zool. Res. Java, London, pt. 7, 5 pp., 1 pl. [Lutra]) Gray, 1843, List Mamm. Coll. Brit. Mus., 71. So. #495 Micraonyx leptonyx, q. v.

#494 Aonyx leptonyx mayoii. So. #495 [Micraonyx] leptonyx mayoii, q. v.

#495 (494). Micraonyx ⁸ Allen, 1919, J. Mamm., v. 1 (1), November, 24, tod. leptonyx Horsf., 1823 so. cinerea Illiger, 1815.—Asiatic elawless otters. Characters as in Aonyx reversed: faeial portion of skull narrow and weak, with small ineisors and canines, earnassials and molars enormously developed for the size of the skull, these teeth about equaling those of Aonyx; bulk of skull one-third or less than one-third that of Aonyx, which causes the palatal space between earnassials and molars of the maxillary series of Micraonyx to be much less than the transverse breadth of m ¹. Borneo; Java; Karimon Id.; Palawan Id.; Sumatra. Syns.: Barangia Gray, 1865, Proc. Zool. Soc. London, no. 8, 123, mt. sumatrana Gray so. barang Cuv., from Sumatra; Leptonyx ^h Lesson, 1842, Nouv. Tab. Règne Anim., Mamm., 72, mt. barang (syns. leptonix (tat.), cinerca, perspicillata) [not Leptonyx Swainson, 1821, birds; not Leptonyx ^h Gray, 1837, seals]. Sec also #498a, concolor ^s so. cinerca; if this synonymy is correct, Micraonyx is so. Amblonyx.

#495 Micraonyx ¹ [or Aonyx ¹, Enhydra ¹] **cinerea** (Illiger, 1815, Abl. ph.-Kl. K. pr. Ak. Wiss. Berlin (1804–1811), 90, 99 [Lutra ¹]) Allen, 1919, J. Mamm.,

v. 1 (1), Nov., 24. Clawless otter. Asia. Syn. lcptonyx.

Armillifer †796.

[aonycis *.—Peritoneal eavity.]

#495 Micraonyx [or Aonyx] leptonyx (Horsf., 1823, Zool. Res. Java, London, pt. 7, 5 pp., 1 pl. [Lutra]) Allen, 1919, J. Mamm., v. 1 (1), Nov., 24. Clawless otter, Javanese otter, kurzkrallig Fisehotter, Anjing-ayer, Chusam, Simung, Suriam, Wargul, Welingsang. Assam; Burma, Himalayas, gener-

ally at low elevations; Java^t; Lower Bengal; Malay Peninsula; Nepal; Singapore; south China; Sumatra. So. #495 Micraonyx^t cinerea, q. v.

#495 [Micraonyx or] Aonyx 1 leptonyx • [so. cinerca] mayoii Author not traced.

Otter.

Armillifer †796.

[aonycis*.—Peritoneal cavity.—From River Indus, India.—T. h.]

#496(493). Front claws present though sometimes very small; toes 2 and 3 on hind feet longest, toes 1 and 5 shortest; toes of fore feet normal. Tail at least one-third of body length. Dorsal bristle hair completely covers the wool hair. See #497A.

#497A (497B). Pteronura Gray, 1837, Charlesworth's Mag. Nat. Hist., n. s., v. 1, 580, mt. sambachii s Gray, 1837 so. (1897; 1911) brasiliensis Zimm., 1780, Demerara t.—Margined-tailed otter, Saumotter. Tail sword-shaped, very slightly attenuated, end rounded; distal two-thirds so depressed dorso-ventrally as to form lateral edges. Webs very large, lobes extending beyond the claws. Hair relatively short, lying smooth. Nose always pilose. Head + body about 100 eentimeters long. Tropical South America. Syn. Pterura so Wiegmann, 1838, Arch. Naturg., v. 1 (4), 285.

#497A Pteronura [or Lontra] brasiliensis (Zimmermann, 1780, Geogr. Ges. Mensch., v. 2, 316 [Lutra]) Ihering, 1911, Rev. Mus. Paulista, São Paulo, v. 8, 262. Ariranha. Guatemala to Guiana, Brazil, Paraguay, as far as Rio de la Plata. Syn. Pteronura sambachii, fide Trouess., 1897, 286; Ihering, 1911, 263.

Alaria < †223j.—Intest.

clathratum.—S t o m a c h . — M a t t o grosso^t, Brazil.—T. h.

pseudoclathratum.—Brazil ^t.—T. h.

Echinostoma †255.—Intest.

incrassatum.—Brazil.

Paragonimus †250.—Lungs.

rudis.—Brazil t.—T. h.

Diphyllobothrium †295.

reptans.-Larva in musculature.

#497B (497A). Tail gradually attenuated to a point, conical, somewhat depressed dorso-ventrally. Webs do not extend beyond claws. Head + body at most 85 centimeters long. See #498.

#498 (498a 50). Claws well developed; webs normal. Head + body over 50 centimeters long. See #499.

#499 (500). Lutra ⁵¹ Brisson, 1762, Regnum Animale, 201, 250, tat. lutra Linn., syn. (tsd. 1891; 1900) vulgaris Erxl.; or Lutra Brünn., 1780, Zool. Fundam., 34, tat. Mustela lutra.—Otter, Fischotter. Under jaw, under side and sides of neck not white up to eye-ear line; if a large neck spot is present

^{** 498}a (498). Amblonyx Rafinesque, 1832, Atlantie J., v. 1 (2), Summer (post May), 62, mt. Lutra concolor Raf., 1832 (coneolar m) syn. Lutra amblonyx ° Raf., 1832, from Assam t; concolor ° so. #495 cinerea.—All elaws rudimentary, short, blunt, but present, webs rudimentary. Head + body up to 51 centimeters long. Oriental. Cf. #495 Micraonyx ° which is probably so. **Amblonyx.** Cf. Pocock, 1921, Proc. Zool. Soc. London, 543. Cabrera and Miller agree with Pocock.

⁶¹ Syns.: Hydrogale h Gray, 1865, Proc. Zool. Soc. London, no. 8, 131-132, mt. maculicollis Lieht. [not #354 Hydrogale Kaup, 1829, insectivore];

Latax h Gray, 1843, Ann. Mag. Nat. Hist., v. 11 (68), Feb., 119, mt. lataxina Cuv., from South Carolina [not #502 Latax Gloger, 1827, sea otter];

Lataria Gervais, 1855, Hlst. nat. Mamm., Paris, v. 2, 118 (Latax h Gray, 1843, renamed);

Lataxina Gray, 1843, List Spee. Mamm. Brit. Mus., pp. xxi, 70, tat. lataxina Cuv. syn. moltis Gray (Latax h Gray, 1843, renamed);

Lontra Gray, 1843, Ann. Mag. Nat. Hist., v. 11 (68), Feb., 118, contains canadensis, brasiliensis; Lutris · Duméril, 1806, Zool. Analytique, Paris, 12, 13;

Lutrir • Rafinesque, 1815, Analyse Nature, Palerme, 59, new name for Lutra; 1817, Amer. Monthly Mag., N. Y., v. 1, 437, cites only americana Raf.;

Lutronectes • Gray, 1867, Proc. Zool. Soe. London, no. 12, 180, mt. whiteleyi Gray, syn. ? vulgaris Temm. so. (1912) lutra Linn.;

Nutria Gray, 1865, Proc. Zool. Soc. London, no. 8, 128, mt. felina Molina.

this is not sharply defined. Skull broad, low (depth of braincase only about half mastoid breadth), entire dorsal profile nearly straight, zygomatic arches so widely expanded and postorbital region so much narrowed that distance from point of greatest narrowing to zygoma is greater than postorbital constriction; rostrum so shortened that posterior border of narial opening approaches level of anterior zygomatic root, and distance from orbit to gnathion is much less than half length of braincase; auditory bulla flattened, with conspicuous meatal tube; paroeeipital process low and ridgelike but distinct from bulla. Teeth 36 (i. 3/3, e. 1/1, pm. 4/3, m. 1/2); large as compared with width of rostrum and palate (greatest transverse diameter of upper earnassial equal to half distance between earnassials); all of the small premolars opposed and eapable of trenchant action with those . of opposite jaw; upper earnassial with crown triangular in outline, the outer side occupied by a moderately high cutting edge formed by 2 cusps and a connecting ridge, the inner side (about half total crown area) by a flat erushing surface; upper molar rhombic in outline, its crown area about equal to that of earnassial (usually somewhat smaller), its greatest diameter transverse to axis of toothrow, 4 primitive cusps present; lower carmassial with 3 anterior cusps well developed, subequal, posterior heel slightly larger than anterior triangle. External form highly modified for aquatic life, body long and of approximately same width as neek and head, tail long, very muscular, broad at base, tapering distally, legs short, feet broad, toes webbed, short-clawed; fur soft, dense and impervious to water. Nearly cosmopolitan; absent only from the Antarctic and high Arctic regions, Madagascar, Australia and Pacific Islands.

#499 Lutra annectens Forsyth Major, 1897, Zool. Anz., v. 20 (529), Apr. 26, 142. Central American Otter, Nutria in Costa Rica. Rio de Tepic,

Nayarit, Mexico t; Central America.

#499 Lutra ¹ [or Lontra ¹] brasiliensis Zimmermann, 1780, Geogr. Ges. Mensch., v. 2, 316. So. #497B Pteronura brasiliensis, q. v., fide Ihering, 1911, 262.

#499 Lutra ¹ capensis Illiger, 1815, Abh. ph.-Kl. K. pr. Ak. Wiss. (1804–1811), 79, 87 [nn]; Schinz, 1821, Cuvier's Thierreich, v. 1, 214. So. #494 Aonyx capensis, q. v.

#499 Lutra ¹ cinerea Illiger, 1815, Abh. ph.-Kl. K. pr. Ak. Wiss. (1804–1811),

90, 99 [nn]. So. #495 Micraonyx cinerea, q. v.

#499 Lutra ^t [or Latax ^h] (Lutra) lutra (Linn., 1758a, 45 [Mustela ¹]) Cuv., 1817, Règne Anim., v. 1, 151. Common otter, European otter, Sea otter, Nirrnai, Nirunai (Water-dog). Upsala, Sweden ^t; from British Isles to Caueasus, from Scandinavia to Spain and Greece; north Africa, castward into Asia; limits of range not known.

Euparyphium †257.—Intest. [melis.—Europe.]

[trigonocephalum o.]

Schistocephalus < †289.—Intest.

nodosus *.—Leningrad, U. S. S. R.

Dioetophyme †426.

[giganteus °.]

gigas.—Intest. erratic, pelvis of kidney.—Alfort, Europe.

viscerale ".

Filaria †435.

acuminata h.—Pulm. arteries, embryos in blood.—Coll. Senckenberg, Frankfurt a. M.

Skrjabingylus < †418.—Frontal sinus. [mustelarum 1 s.—So. nasicola.] nasicola.

Trichosoma 1 †372a.

putorii s.—Russia.

Echinorhynchus †502.

species André, 1917.—Intest.— Rhone.

Ixodes †866.—Ext.

erenulatus 8.

†hexagonus hexagonus.—England.

Trichodectes †1100.—Ext.

exilis.—Palaearctic Region t.—T. h.

#499 Lutra [or Aonyx 1, Hydrogale h o] maculicollis Lichtenstein, 1834, Verz. Samml, südafr. Nat., June, 7 [nn]; 1835, Arch. f. Naturg., v. 1 (1), 89, pl. 2. Spotted-necked otter, web-footed otter. Africa south of Sahara (Bambus-

#499 Lutra matschiel Cabrera, 1903, Bol. Soc. esp. Hist. Nat., v. 3 (4), 182. Muni River, Gaboon t. Species unrecognizable from description, fide

Allen, 1924, Bul. Amer. Mus. Nat. Hist., N. Y., v. 47, 90.

Trichodectes †1100.—Ext. matschiei.—Cameroon t.—T. h.

#499 Lutra nair Cuv., 1823, Diet. Sei. nat., v. 27, 247. Anjing Ayer, nirnayie, Indian otter. Asia; Europe. So. #499 Lutra lutra, fide Trouess., 1897c, 283.

Armillifer †796.

[aonucis *.—Peritoneal cavity.] †moniliformis.—Encysted.

#499 Lutra paramensis Rongger, 1830, Naturg. Säug. Paraguay, 128. Mexico to Straits of Magellan.

#499 Lutra pruneri.

Boopia <†1097.—Ext. peregrina.—India t.—T. h.

#499 Lutra solitaria * Natterer, 1842, Arch. Naturg., v. 8 (1). 358. So. #499 Lutra paranensis, fide Trouess., 1897c, 287.

> Echinostoma †255.—Stomach, intest. incrassatum.—Brazil t.—T. h.

Diphyllobothrium †295.

reptans.—Larva in muscles.

Dioctophyme †426.

gigas *.—Abdom.—Brazil. visccrale.

#499 Lutra species.

Treponema 1 †142f.

[lutrac.—Batavia t.—T. h.]

Trypanosoma †94.—Blood.

species Fehlandt, 1911.—Tanganyika.—Host i "Fischotter."

Echinostoma †255.

inerme.—T. h.

Cloeoascaris $\leq †476q$.—Intest. spinicollis.—Kilosa t, Tanganyika.— Dioctophyme †426.

[gulonis-sibirici.-So. gigas=renale.—Sea otter.]

[sanguineus.—Otter.]

Ixodes †866.—Ext.

*hexagonus longispinosus.—U. S. A.

#499 Lutra vulgaris · Erxl., 1777, Syst. Regni Anim., v. 1, 448, renaming of lutra. Common Otter, loutre commune, Fischotter, gemeine Otter, Uttern, Dalwai bek, Jalmanjar, Jal-mánus, Lad, Nirnai, Niru-Kuka, Nirunai, Páni kutta, Pánmanjar, Sag-i-áb, Ud, Ud biláo. Throughout Palaearetic region, extending into northwest Himalayas, India, Ceylon east of Bay of Bengal. So. #499 Lutra lutra, q. v.

#500 (499). Lutrogale Gray, 1865, Proc. Zool. Soc. London, no. 8, 127, first sp. monticola Hodgson, 1855, from Himalayas, but compare tsd. (1919; 1923) by climination, macrodus.—Under jaw, under side and sides of neek up to eye-ear

line white, the light color sharply defined from the dark. Oriental.

- #501 (492). ENHYDRINAE Gill, 1872a, Arrangement Fam. Mamm., Smiths. Misc. Coll. no. 230, 6, 65.—Sea Otters. Differ from Lutrinae as follows: Hind feet very large and paddle-like, with digits subequal, but the 5th slightly longer than the 3rd or 4th. Tail short. Basicranial axis depressed at an angle upon basifacial axis; angular of mandible remote from condyle; teeth with rounded cusps, median lower incisor suppressed. See #502.
 - Syn. Lataxinae Pocock, 1922, Proc. Zool. Soc., London, part 4, no. 55, January, 830.
- #502. Enhydra ⁵² Fleming, 1822, Philos. Zool., v. 2, 187, "Sea Otter", probably tsd. (1904) Lutra marina Steller, from coasts of North Pacific; tsd. (1924) Mustela ¹ lutris Linn.—Sea otters. On hind foot toe 5 longest, toe 1 shortest, front toes very short. Tail not over one-fourth body length. Dorsal bristle hair so sparse that wool hair is exposed. Head+body much over 100 centimeters long. Coast of northern Pacific.
- #502 Enhydra [or Enhydris h o, Latax o, Lutra l, Phoca l] (Latax o) lutris (Linn., 1758a, 45 [Mustela l]) Gray, 1843, List Mamm. Coll. Brit. Mus., 72. Northern Sea Otter. Coasts of Bering Sea t; America; Asia.
- #502 Enhydra [or Enhydris ho, Enydris ho, Latax o] (Enhydra) marina ho (Leem, 1767, Beskr. Finmark. Lapper, 208 [Lutra l]; Link, 1795, Beytr. Nat., v. 1 (2), 84 [Lutra l]; Exrl., 1777, Syst. Regn. Anim., 445 [Lutra l]) Gray, 1843, Ann. Mag. Nat. Hist., v. 11, Feb., 119. Sea otter, loutre de mer, edle Secotter, Secotter. So. #502 Enhydra lutris, fide Trouess., 1904c, 215, Elliott, 1905, 435, and Thomas, 1911, 138. Syn. lutris, fide Baird, 1857, 189.
- #503 (491). Hind feet usually smaller, never larger than forc feet; no structural modification subservient to aquatic life; kidneys not lobulate. Scc #504.
- **#504** (507). Cavity of bulla completely divided into 2 subequal chambers by oblique partition passing from stylomastoid foramen forward and inward to carotid foramen. See #505.
- #505. Helictidinae Gill, 1872a, 6, 64.—Bulla not communicating with periotic hollow, its roof close to auditory annulus; upper carnassial with large bicuspid talon; molar wider than long, smaller than carnassial; lower carnassial with moderate heel and large metaconid; rhinarium very deep below nostrils, lateral slit of nostrils long and complete; no philtrum or groove on upper lip; ear with well-developed bursa. Feet fossorial, naked below, but narrow, with webbing extending only to proximal end of digital pads, which are widely separable; all pads coarsely striate; 2 long metatarsal pads. No anal pouch. See #506.
- #506. Helictis Gray, 1831, Proc. Zool. Soc. London, pt. 1 (8), post June 28, 94, mt. (only definite species) moschata Gray (tsd. 1904).—Ferret-badgers, Spitzfrett. Size small. Body and head elongate; ears small, but distinct; nose prolonged and terminating in a naked, obliquely truncated snout, separated from upper lip by a narrow hairy space; nese naked above for about one-third the distance to eyes. Legs short; claws much compressed, fore claws about double the length of hind; soles naked; naked portion of hind foot terminates some distance in front of heel. Mammac 4. Teeth 38

Enydris . Fischer, 1829, Synop. Mamm., 228 (syn. "Enhydra Fleming?"), mt. stelleri;

Euhydris ^m Jordan, 1888, Man. Vert. Anim. North. U. S., 5th ed., 339;

Latax • Gloger, 1827, Nova Acta Leop., Halle, v. 13 (2), 511, mt. marina Erxl., from coasts of North Pacific * so. (tsd. 1901; 1905) lutris Linn.;

Pusa ho Oken, 1816. Lehrb. Naturg., Th. 3, Zool., Abth. 2, 985, tsd. (1904) 3rd sp. orientalis Oken so. marina so. tutris Linn. [not Pusa Scopoli, 1777, PHOCIDAE].

⁸² Syns.: Enhydria ° Zittel, 1893, Handb. Palaeozool., v. 4 (3), 652, Enhydra Fleming, 1822, renamed; Enhydris h° Temminck, 1838-1839, Hoeven's Tijdschrift Natuur. Gesch. Physiol., v. 5, 285, quotes Enhydris marina [not Enhydris Merrem, 1820, reptile];

(i. 3/3, c. 1/1, pm. 4/4, m. 1/2); upper carnassial (which in both Indian and Burmese forms is much larger than the true molar behind it) with very large bienspid inner tubercle and a very small pointed cusp at the anterior extremity; lower carnassial with a heel (talon) about one-third as long as the tooth; molar broader than long, onter margin slightly indented, crown with several small cusps. Skull with the nasal portion rather narrow, palate extending backwards to about halfway between hindmost molars and glenoid fossa; infraorbital foramen large. Vertebrae: C. 7, D. 14, L. 6, S. 4, Cd. ?. Shorter legs and longer bodies than badgers, but are allied to latter and not to Gulo or any other genus of MUSTELINAE, so that it is incorrect to call them wolverines as Jerdon and others have done; Blyth's term Brockweasel is better, but animal is not a weasel. Eastern Asia.

Syns.: Helictes Gray, 1847, List Osteol. Spec. Brit. Mus., pp. x, 20;

Melogale Geoffr., 1834, Voy. Indes-Orient., Zool., Paris, 129-137, mt.

personata Geoffr., 1834.

#506 Helictis everetti Thomas, 1895, Ann. Mag. Nat. Hist., ser. 6, v. 15, 331. Mount Kina Balu ^t, N. Borneo.

Neotrichodectes < †1099.—Ext. [mephitidis * Osborn.—Borneo.]

- #507 (504). Cavity of bulla, when divided, separated into an anterior larger and a posterior smaller chamber by a transverse partition running from stylomastoid to foramen lacerum posticum. See #508.
- **#508** (516). Walls of bulla everywhere thick and permeated with air eells continuous with those of mastoid, cells of which may communicate with cavity of bulla. See #509.
- #509. Mustelinae i Swainson, 1835, Nat. Hist. Class. Quad., pp. vii, 362.— Stoats, weasels, and polecats. Weasel-like. Skull with long cranial and short facial portions; teeth sectorial, talon of upper carnassial small, anterior; molar much wider than long; lower earnassial with cuspidate heel, metaconid present or absent; pm. 1 absent above and below; tympanic annulus in contact with roof of bulla; palatine foramina maxillary; rhinarium small; bursa of ear marginal, large or moderately so. Feet cursorial, usually hairy below, no metatarsal pad; other pads moderate or small, coarsely striate; claws short, compressed, acute, curved; digits webbed to proximal end of pads, the second, third, and fourth widely separable. Baculum with narrow, long, deep groove in its distal third beneath, ending in a median rounded apex. Northern hemisphere, south into northern Africa, Malay Archipelago, and northern and western S. America; in Europe west to Ireland. See #510.
- #510 (511). Vormela Blasius, 1884, Bericht naturforsch. Gesellsch. Bamberg, v. 13, 9-10, 14, mt. tod. sarmatica Pallas so. (tsd. 1912) peregusna Gueldenstaedt.—Tiger polecats, Tigeriltisse. Lower carnassial with evident though small metaconid; hanular in contact with bulla. Back and sides spotted and striped. Skull narrow, somewhat flattened (depth of brain-case a little more than half mastoid breadth), dorsal profile slightly arched posteriorly, rather strongly bent down from orbital region forward, zygomatic arches not specially widened, and postorbital region not unusually narrowed (distance from point of greatest narrowing to zygoma less than breadth of postorbital constriction); rostrum rather short and broad, its width about equal to that of interorbital constriction, the distance from anterior rim of orbit to gnathion equal to one-half length of brain-case; auditory bulla moderately inflated, oval or subtriangular in outline, the meatus with a tubular rim, anterior extremity of bulla in contact with hamular and nearly or quite reaching

level of foramen ovale. Teeth 34 (i. 3/3, c. 1/1, pm. 3/3, m. 1/2); upper carnassial robust, width of its cutting portion about half of length, anterior cusp so developed that its greatest height is nearly three-fourths length of outer border of tooth; posterior cusp greatly reduced, appearing as a mere thickening of posterior margin of crown; inner lobe of carnassial much wider than in Mustela, its posterior border extending about to middle of crown; upper molar elongate-pyriform, the outer portion only a little narrower than inner, the median constriction slight, axis of erown strongly oblique to median line; protocone, paracone and hypocone small but distinct, metacone barely indicated; lower carnassial essentially as in Martes, metaconid small though evident, but posterior heel smaller, its area less than half that of cutting portion of crown. External form polecat-like; fur rather soft and dense, varied with black, brown, and whitish or yellowish. Tail about half as long as body, bushy. S. E. Europe to central China.

- #510 Vormela [or Putorius ¹] (Putorius ¹) peregusna (Gueldenstaedt, 1770, Nov. Comm. Acad. Sci. Imp. Petrop., v. 14 (1), 441 [Mustela ¹]) Miller, 1910, Proc. U. S. Nat. Mus., v. 38, 385. Mottled polecat. Banks of River Don, southern Russia ¹; from central Asia west through Asia Minor and southern Russia to Roumania, Bulgaria and eastern Austria-Hungary (Bukowina).
- #510 Vormela ^t [or Foetorius ¹, Putorius ¹, Rhabdogale ¹, Viverra ¹] (Putorius ¹) sarmatica ⁸ (Pallas, 1771, Reise Prov. Russ. Reichs, St. Petersb., v. 1, 453 [Mustela ¹]) Blasius, 1884, Bericht naturforsch. Gesellsch. in Bamberg, v. 13, 9–10. Mottled polecat, Tiegeriltiss. Eastern Europe, parts of Western Asia, generally very rare, but common in S. Afghanistan. So. #510 Vormela peregusna.

Molineus †411Q. patens.

Trichopsylla < †1626.—Ext.

penicilliger of Kol.—Palaearctic

#511-515 (510). Mustela 1 53 Linn., 1758a, 45, type erminea Linn. (quotes Mustela vulgaris Gesner), etd. (1901) martes Linn., etd. (1901) lutra Linn.— Ferrets, polecats, weasels, etc., Stinkmarder. Lower carnassial without metaconid; tip of hamular widely separated from bulla. Back and sides never spotted, rarely (in certain Asiatic species) with median dorsal stripe. Skull in general resembling that of Martes, but rostrum so shortened that distance from orbit to gnathion is less than width of rostrum between anteorbital foramina; auditory bulla without meatal tube, its outline variable but never flask-shaped; paroccipital process small and flattened, closely applied to posterior margin of bulla. Teeth 34 (i. 3/3, c. 1/1, pm. 3/3, m. 1/2); upper carnassial as in Martes, its posterior cusp low but well developed, the height of its main cusp about half outer border of crown; upper molar between pyriform and pandurate in outline, the constriction evident though not deep, the main axis of crown nearly perpendicular to sagittal line; lower carnassial without metaconid, the posterior heel crossed by a longitudinal trenchant ridge; other teeth essentially as in Martes. External form slender, muzzle obtuse, ears low and rounded, legs short, tail variable in length and in quality of hair, but never so bushy as in Martes. Northern hemisphere from the

^{**} Certain authors (as Miller, 1924, U. S. Nat. Mus., Bul. 128, 116-127, and Anthony, 1928, N. Amer. Mamm., 98-111) divide the genus Mustela into the three subgenera Mustela, Lutreola, and Putorius; others (as Cabrera, 1922, Man. Mastozool., 201) use Mustela and Putorius as genera; still other authors use Mustela, Putorius and Lutreola as genera. Under the circumstances we follow the same system we adopted in #413 Felis, i. e., using Mustela in a broad sense and making the subgenus in question stand out by putting it in heavy type.

- Arctic coast south in the Old World to northern Africa and the Malay Archipelago, and in America to the Andes; in Europe west to Ireland. See #512, also footnote 49.
- #511 Mustela [or Putorius] (#513 Mustela, Arctogale, Ictis h) affinis Gray, 1874, Ann. Mag. Nat. Hist., v. 14, ser. 4, 375. Allied weasel, Collaraja. Colombia t; ranges north to Panama.

Ceratophyllus †1627.—Ext.

appollinaris.—Bogota t, Colombia.—T. h.

- #511 Mustela ¹ (#513 Mustela ^r) affinis costaricensis (Goldman, 1912, Proc. Biol. Soc. Wash., v. 25, Jan. 23, 9-10) Allen, 1916, Bul. Amer. Mus. Nat. Hist., v. 35, Apr. 28, 101. Costa Rican weasel. San José ^t, Costa Rica; Costa Rica and Panama, south through western Andes of Colombia to northwestern Ecuador (and Peru?).
- #511 Putorius ¹ affinis ⁸ of Merriam, 1896, N. Amer. Fauna, no. 11, June 30, 31, not affinis Gray, 1874. So. #511 **Mustela** (**Mustela**) affinis costarleensis, q. v.
- #511 Mustela ¹ americana Turton in Linn., 1802, Syst. Nat., v. 1, 60. So. #521 Martes americana, q. v.
- #511 Mustela ¹ americana ^h (Desmarcst, 1818, Nouv. Dict. Hist. nat., Paris, v. 21, 514 [Mephitis]) Baird, 1857, Mamm. N. Amer., 195. So. #552 Mephitis americana ^h, q. v.
- #511 *Mustela ¹ (#513 Mustela ^r, Arctogale ^o, Ictis ^h) arizonensis (Mearns, 1891, Bul. Amer. Mus. Nat. Hist., v. 3, 234 [Putorius ¹]) Miller, 1912, U. S. Nat. Mus., Bul. 79, 99. Arizona weasel, mountain weasel. San Francisco forest, Yavapai Co., Arizona ^t.

Ixodes †866.—Ext.

*species Henshaw & Birdseye, 1911.— Bitter Root Valley.

*texanus.—Texas t.

Ceratophyllus †1627.-Ext.

*acasti *.—Montana.

eaedens durus.—Brit. Columbia ^t.—T. h.

*howelli.—Pine City t, Calif.

*eiliatus mononis.—Pine City t, Calif.

*sexdentatus nevadensis.—Pine City , Calif.—T. h.

*wiekhami.—Montana.

Foxella $< \dagger 1626$.—Ext.

ignotus recula.—Okanagan Landing t, Brit. Columbia.—T. h.

#511 Mustela barbara Linn., 1758a, 46. So. #525 Tayra barbara, q. v.

#511 Putorius 1 eaudatus. Probably lapsus for #511 Mustela 1 (Mustela) longieauda.

Ceratophyllus †1627.—Ext. abantis.—Alberta.

- #511 Mustela acaurina origenes Rhoads, 1902, Proc. Acad. Nat. Sci., Phila., v. 54, 458. So. #521 Martes caurina origenes, q. v.
- #511 Mustela [or Putorius] (#513 Mustela, Arctogale, Jetis) eleognanii Bonaparte, 1838, Charlesworth's Mag. Nat. Hist., n. s., v. 2, Jan., 37. Bonaparte weasel, common weasel, small brown weasel. Northeastern North America.
- #511 Mustela ¹ [or Putorius ¹] (#513 Mustela ²) cleognaull cleognaull (Bonaparte, 1838, Charlesworth's Mag. Nat. Hist., n. s., v. 2, Jan., 37) Miller, 1912, U. S. Nat. Mus., Bul. 79, 95. Northeastern North America ¹; Boreal forest covered parts of North America from New England and Labrador to coast of southeastern Alaska, and south in Rocky Mountains; it occurs in

interior of British Columbia (at Sicamous); common in New England and New York, and in forest-covered parts of Minnesota; probably occurs also in northern Michigan and Wisconsin.

#511 Mustela [or Putorius] (#513 Mustela , Arctogale , Ictis , Putorius] cicognanii richardsonii (Bonaparte, 1838, Charlesworth's Mag. Nat. Hist., n. s., v. 2, Jan., 38 [Mustela]) Miller, 1912, U. S. Nat. Mus. Bul. 79, 95. Richardson's weasel. Fort Franklin, Great Bear Lake, Mackenzie, Canada ; to Alaska and Brit. Columbia.

Nearctopsylla <\daggregation 1623.—Ext.
brooksi.—Alberta; Brit. Columbia.
hygini hygini.—Red Deer t, Alberta.—T. h.

#511 Putorius communis • Lesson, 1842, N. Tab. Règne Anim., Nov., 69, renaming of putorius. So. #511 Mustela (Putorius) putorius, q. v.

#511 Putorius desertorum.

Ctenophthalmus <†1626.—Ext. rettigi.—Rumania ^t.

#511 Mustela ¹ [or #514 Lutreola ^r, Putorius ¹] (Putorius ¹) energumenos (Bangs, 1896, Proc. Bost. Soc. Nat. Hist., v. 27, 5 [Putorius ¹ vison]) Miller, 1912, U. S. Nat. Mus., Bul. 79, 415. Syn. Lutrcola energamos ^m. So. #511 Mustela ¹ (Lutreola) vison energumenos, q. v.

#511 Mustela [or Arctogale, Foetorius], Mustelina, Putorius], Viverra [] (#513 Mustela , Arctogale, Gale , Ictis) erminea Linn., 1758a, 46. Ermine, stoat, hermine, grosses Wiesel, Hermelin, Hermelinen, Røiskatten. Upsala, Sweden; throughout Palaearctic region as far south as the Alps and Himalayas.

Hymenolepis †314.

species Galli-Valerio, 1931.—Ova in feces.

Taenia 1 < † 299.

species Feilden in Nares, 1878.

Taenia + †325.—Intest.

brevicollis.—Berlin^t, Germany.— T. h.

Taenia (Hydatigera) †325c.—Intest. †crassicollis s.—Switzerland. †taeniaeformis.

Ascaris 1 †479.

columnaris.—Intest.—Siberia.

Filaroides < †440.—Lungs. bronchialis °. mustelarum ¹ s.—Russia.

Trichosoma 1 †372a. putorii *.

Trichostrongylus †414 or Molineus †411Q.

[foetus in for patens.—Switzerland.] patens.—Small intest., duodenum.— Europe.

Skrjabingylus < †418.—Frontal sinus. [mustelarum d l s.]
nasicola.

Ceratonyssus †8911.—Ext. †musculi *.—Sneek.

Demodex †855.—Hair follicles.

crmincae.—Exeter t, England t.—
T. h.

Hypoaspis < †898.--Ext. celeripediformis.--Sneek ^t, Holland.

Ichoronyssus †8910.—Ext.

albatus s.—Europe. arcuatus.

arcuatus.

isabellinus.—Holland.

Ixodes †866.—Ext.

†hexagonus.—The Hague; Europe. †ricinus.—England.

Laelaps †900.—Ext.

crassipes.—Sneek, Holland.

hilaris.

species Ouds., 1896.—Sneek, Holland.

Listrophorus < †930a.—Ext. mustelac.—Central Europe.

Parasitus < †896.—Ext. mustclarum.— Holland.

Trombidium †977.—Ext. †striaticeps.—Europe; France t.

Amphipsylla < †1626. -- Ext.

contigua contigua.—Eger¹, Bohemia.—T. h.

contigua locuples.—E. Turkestan t.

dumalis.- E. Turkestan t.

primaris primaris.—E. Turke-stan t.—T. h.

Ceratophyllus †1627.—Ext.

†fasciatus.—Brit. Isles.

flaveolus.—Austria i.

lunatus.—Savoy.

mustclac.—Brit. Isles.

penicilliger.—Brit. Isles.

sciurorum.—Brit. Isles.

walkeri.—Brit. Isles.

Ctenophthalmus (_†1626.—Ext. assimilis.—Denmark.

Felicola < †1099.--Ext.

subrostratus.

Hoplopsyllus †1628.—Ext.

glacialis profugus.—E. Turkestan ^t.—
T. h.

Hystrichopsylla < †1623.—Ext.

talpae.—Europe.

Leptopsylla †1624.—Ext.

spectabilis.—Great Britain.

Trichodectes †1100.-Ext.

dubius o.—Great Britain.

pusillus *.—Europe.

retusus *.—Europe.

species Giebel, 1861.—Europe.

#511 Lutreola europaea ° Homeyer, 1879, Zool. Garten, v. 20 (6), June, 184, substitute for lutreola. So. #511 Mustela (Lutreola) lutreola, q. v.

#511 Mustela [or Foctorius, Putorius] (#513 Putorius r) eversmanii Lesson, 1827, Man. Mamm., May, 144. Southeastern Russia and Caucasus; extending as far as Turkestan and the south of Siberia.

Ascaris ¹ †479.

columnaris.—I n t e s t.—

Siberia.

Haemaphysalis †869.—Ext. numidiana.—Central Asia.

#511 Mustela ¹ flavigula Bodd., 1784, Elench. Anim., Roterodami, v. 1, 88. So. #521 Martes flavigula, q. v.

#511 Mustela 1 [or Foctorius] foctida o (Gray, 1843, List Spec. Mamm. Brit. Mus., 64 [Putorius], renaming of putorius Linn.) Grevé, 1894, Nova Acta Acad. Leop., Halle, 180, 269. Elk, Ilk, Iltis, Ratz, Stänker, Illern. So. #511 Mustela 1 (Putorius) putorius, q. v.

#511 Mustela ¹ foina Schreb., 1777, Säugth., v. 3, 472, pl. 129 (1776). So. #521

Martes foina, q. v.

#511 Mustela ¹ [or Putorius ¹] (#513 Mustela ¹, Arctogale ⁰, Gale, Ictis ^h) frenata Lichtenstein, 1831–1834, Darstellung neuer oder wenig bekannter Säugethiere, pl. 42. Bridled weasel, gezäumte Wiesel, Comadreja, Onza (in Mexico). Valley of Mexico, near Mexico City, Mexico ¹, north to southern Texas.

Filaria †449.

perforans *.—Subcut.

#511 Mustela ¹ (Lutra ¹) fulva ^o Kerr, 1792a, Anim. Kingd., 173, renaming of lutreola. So. #511 Mustela ¹ (Lutreola) lutreola, q. v.

#511 Mustela | [or Foctorius, Martes | Putorius, Viverra | (#515 Putorius, Mustela | furo Linn., 1758a, 46. Ferret, furet, Frettchen. Usually assumed to be a domesticated variety of #511 Mustela (Putorius) putorius, but appears to be closely related to #511 Mustela (Putorius) eversmannii. Africa ; Europe.

Eimeria †163.

furonis.—Feces.—England ^t.—T. h. ictidea.—Feces.—England ^t.—T. h.

Isospora †161.

laidlawi.—Feces.—England t.—Syn. laidlaw m.—T. h.

Treponema 1 †142f. †morsus-muris.

Diphyllobothrium †295.

ranarum.—Plerocereoid in stomaeh, on surface of mesentery, intercostal muscles, subeutaneous cellular tissue of thoraeie region.—Paris, from England.—Exp. in "ferret".

Triehinella †366.

†spiralis.—Muscles.—Exp.

Trichuris †370.

†affinis a.

[species Railliet, 1893a.—Intest.— Female found, resembling *T. de*pressiusculus of dog.]

Haemaphysalis †869.—Ext.

†leachi.—Africa.

Ixodes †866.—Ext.

†hexagonus.

†reduvius.

tricinus.

Laelaps †900.—Ext.

species Ouds., 1896.—Holland.

gibbus.—England.
mustelae.
putorii.—T. h.
Otodeetes †944c.—Ext.
cynotis.
[*ecaudatus o.—Maryland.]
furonis.
Sarcoptes †942.—Skin.
hydrochoeri.
†scabiei.—France.
scabiei cuniculi.

Listrophorus < †930a.—Ext.

scabiei furonis.—France.—T. h. Uropoda <†890a.—Ext.

parallela.

Ceratophyllus †1627.—Ext.

†fasciatus.—England.

[furoris *.—Glanvilles Wootton *, England.—Ferrets t. h.]

Ctenophthalmus <†1626.—Ext.

agyrtes.—England.—Ferret.

Linognathus <\pi1108.—Ext. piliferus.—Ferret.

#511 Mustela 1 gale ° Pallas, 1811, Zoogr. Rosso-Asiat., v. 1, 94, renaming of vulgaris. So. #511 Mustela 1 (Mustela) vulgaris, q. v.

#511 Mustela 1 galera Erxl., 1777, Syst. Regn. Anim., v. 1, 453. So. #458
Atilax galera, q. v.

#511 Mustela 1 gulo Linn., 1758a, 45. So. #523 Gulo gulo.

#511 Mustela illis · Boddaert, 1784, Elenchus Anim., Roterodami, v. 1, 87, renaming of putorius. So. #511 Mustela (Putorlus) putorius, q. v.

#511 Putorlus infectus of Ogerien, 1863, Hist. Nat. Jura, Paris, v. 3, 59, substitute for putorius, fide Miller, 1912, 423. So. #511 Mustela (Putorlus) putorius, q. v.

#511 Mustela [or Foetorius, #515 Putorius, Vison] itatsl Temm. in Siebold, 1844, F. Japon. (Mamm.), 34. Japan.

Sparganum †293.

species Ijima & Murata, 1888.— Japan.—Host given as "Mustelus itatsi."

Dioctophyme †426.

†renale.—Body eav.[—Japan.]

Gnathostoma †473.

 $\dagger spinigerum.$

Centrorhynchus †501S.

itatsinis.—Small intest.—Japan ^t.— T. h.

Ceratophyllus †1627.—Ext.

andersoni.—Takamori ^t, Japan.— T. h.

Trichopsylla < †1626.—Ext. [mikado.—Japan ^t.—T. h.]

#511 Mustela m laevis. See under Fishes.

#511 *Mustela ¹ [or Putorius ¹] (#515 Mustela ¹, Arctogale ^o, Ietis ^h) longleauda Bonaparte, 1838, Charlesworth's Mag. Nat. Hist., n. s., v. 2, Jan., 38. Longtailed weasel. Carlton House, Saskatehewan, Canada ^t; Great Plains, from Kansas northward.

Ceratophyllus †1627.—Ext.

sexdentatus agilis.—Alberta ^t; Brit. Columbia.

labis.—Calgary t, Alberta.—T. h.

Hystriehopsylla < †1623.—Ext. dippiei.—Alberta.

Nearetopsylla < †1623.—Ext. brooksi.—Alberta.

Neopsylla †1625C.—Ext. inopina.—Calgary ^t, Alberta. Oropsylla < †1626,—Ext. [poeantis •.—Canada.] rupestris.—Alberta ^t.

#511 Putorius longicaudatus Jordan & Rothschild, 1922, Ectoparasites, v. 1 (4), 275. So. #511 Mustela (Mustela) longicauda, fide Jordan, 1929, Novit. Zool., v. 35, 32.

#511 Mustela lutra Linn., 1758a, 45. So. #499 Lutra lutra, q. v.

#511 Mustela¹ [or Foetorius¹, Hydromustela, Lutra¹, #514 Lutreola^r, Putorius¹, Vison^o] (#514 Lutreola^r) lutreola (Linn., 1761, Faun. Suec., ed. 2, 5 [Viverra¹]) Linn., 1766, Syst. Nat., ed. 12, 66. Vison d'Europe, Nörz, Sumpfotter (Marsh-Otter), Wasserwiesel. Finland^t; Northern Asia, westward to Finland and southwestern France, southward to castern Rumania; limits of range not known.

Euparyphium †257.—Intest.

[melis.—Europe.]

trigonocephalum °.

Dioctophyme †426.

gigas.—Intest., pelvis of kidney.—

Rennes; Boston.

viscerale.

Filaroides < †440.—Lungs. bronchialis °. mustelarum °.—Russia. Gnathostoma †473.

robustum *.—Stom.

sociale *.—Stom.

Ixodes †866.—Ext.

cookei.

†hexagonus.

#511 Mustela I lutris Linn., 1758a, 45. So. #502 Enhydra lutris, q. v.

#511 Mustela 1 martes Linn., 1758a, 46. So. #521 Martes martes, q. v.

#511 Mustela i melampus Wagner in Schreb., 1840, Säugth., Suppl., v. 2, 229. So. #521 Martes melampus, q. v.

#511 Mustela [Cynomyonax t] (#515 Putorius t, Cynomyanax co, Cynomyonax t)
nigripes (Audubon & Bachman, 1851, Quad. N. Amer., v. 2, 297, pl. 93
[Putorius]) Miller, 1912, U. S. Nat. Mus., Bul. 79, 102. American ferret,
American polecat, black-footed ferret, black-footed mink. Lower waters of
Platte River t (plains of Platte River, Nebraska t, fide Elliott, 1901, 341;
Miller & Rehn, 1901, 221. Fort Laramie, Wyoming t, fide Miller, 1924,
127); Great Plains, from western North Dakota and northern Montana to
Texas; not known west of eastern base of Rocky Mountains.

Dermacentor †873.—Ext.

†*andersoni.

#511 Mustela [or Arctogale o, Putorius] (#513 Mustela , Arctogale o, Ictis h)
nivalis Linn., 1761, Fauna Suee., ed. 2, 7. Common weasel, belette,
Wiesel, Smavessalan, Snemusen. Province of Vesterbotten, Sweden ;
Europe from Arctic eoast to Mediterranean (including Balearic Islands,
Corsica, Sardinia, Sieily, and Malta) and from Great Britain eastward into
Asia. Several subspecies.

†morsus-muris.

Euparyphium †257.—Intest.

[melis.—Central Europe.]

[trigonocephalum °.]

Taenia ¹ < †299.—Intest.

mustelae.[—Europe.]

mustelae-vulgaris °.

tennicollis h ° Rud., 1819a, not

1810a.—Mus. Vienna.

Treponema 1 †142f.

Ascaris † †479.

columnaris.—Intest.—Siberia.

Capillaria †372b.

alata *.—Padua *.

entomelas.—Intest.

mustelae *o.—Small intest.—Ireland.

Dioctophyme †426.

†gigas *.—Rennes.

[gulonis-sibirici *.]

Skrjabingylus < †418.—Frontal sinus. mustelarum ^{d 1 s}.—Russia. nasicola.—Moscow from Siberia.

nasicola.—Moscow from 510 Strongyloides †355.—Intest.

†longus •.—So. papillosum. Syphacia †494.

†obvelata.

Trichostrongylus 1 †414; Molineus †411Q.

patens.—Sm. intest.—Europe.

Centrorhynchus †501S.

ninnii.—Intest., liver.—Europe.

Corynosoma †501s.

strumosum.

[ventricosus s.]

Echinorhynchus 1 †502.

species Wedl, 1861a.—Larva in mesent. encysted.—Egypt.

Prosthenorchis $\dagger 501p$.

erinacei.

[mustelae s.—Mesent.—C. E. V.] napaeformis o.—Mesent.

Asca < †887.—Ext.

affinis.—Holland.

Haemogamasus †892a.—Ext. nidi.—England.

Ixodes †866.—Ext.

†hexagonus.—England.

Listrophorus < †930a.—Ext. mustelac.—Central Europe.

Myobia †989a.—Ext.

brcvihamata.

trouessarti.

Zercon < †887.—Ext.

species Ouds., 1896.—Holland.

Amphipsylla <†1626.—Ext.

contigua locuples.—E. Turkestan.

Ceratophyllus †1627.—Ext.

†fasciatus.—Brit. Isles.

sciurorum.—Brit. Isles.

walkeri.—Great Britain.

Ctenophthalmus < †1626.—Ext.

arvalis.—Volga Region.

bisoctodentatus.—Great Britain.

Hystriehopsylla < †1623.—Ext. talpac.—Europe.

#511 Mustela ¹ (#513 Mustela ^r) nivalis nivalis (Linn., 1761, Fauna Succ., ed. 2, 7) Miller, 1912, Mamm. Western Europe, 402. Vesterbotten, Sweden ^t; Europe from Arctic coast to Alps and Pyrenees, and from Great Britain eastward.

Amphipsylla < †1626.—Ext.

sepifera.—Zermatt ^t, Switzerland.

Ceratophyllus †1627.—Ext.

†fasciatus.—Val Bavona, Switzerland.

lunatus.—Zermatt ^t, Switzerland.— T. h.

sciurorum.—Val Bavona, Switzer-land.

Ctenophthalmus < †1626.—Ext.

apertus.—France.
nivalis cervinus.—Switzerland.

Leptopsylla †1624.—Ext.

bidentata.—Zermatt, Switzerland.

Trichopsylla < †1626.—Ext.

homoeus.—Zermatt, Switzerland.

#511 [Mustela] (#513 Arctogale °) nivalis pallida Barret-Hamilton, 1900, Ann. Mag. Nat. Hist., ser. 7, v. 5 (25), Jan., 48 [Putorius]. Kokand t, Ferghana; Afghanistan.

Amphipsylla <†1626.—Ext. contigua locuples.—E. Turkestan ^t.

#511 Mustela ¹ (#513 Mustela ^r, Arctogalc °, Ictis h) noveboracensis (De Kay in Emmons, 1840, Rep. Quadr. Mass., 45 [Putorius ¹]) Miller, 1912, U.S. Nat. Mus., Bul. 79, 97. Common weasel, Northern weasel, white weasel. Southern New York ^t; eastern United States from southern Maine south at least through transition zone and west to Illinois.

Ceratophyllus †1627.-Ext.

†*fasciatus.—Ithaca, N. Y.

*species Harper.—Indian Lake, N. Y.

*vison.—Ithaea, N. Y.

Neotrichodectes < †1099.—Ext.

[*mephitidis * Osborn.—III.]

[*minutus *.—Marshall t, Ill.— T. h.] #511 Mustela ¹ [or Foetorius ¹, Putorius ¹] (#513 Arctogale ^o, Ictis ^b, Putorius ¹) nudipes undipes (Cuv. in Geoffr. & Cuv., 1821, Hist. nat. Mamm., v. 2 (32), Sept., 2). Furet de Java, javanische Frett, Pulásan. Java ¹; Borneo; Malay Peninsula; Sumatra.

Xenopsylla †1636. – Ext. †ehcopis.—W. Sumatra.

#511 Mustela numidica (Pucheran, 1855, Rev. Mag. Zool., 2° sér., v. 7, Aug., 393 [Putorius]). N. Africa to (Morocco, Algeria). So. #511 Mustela subpalmata, fide Trouess., 1897e, 276.

Xenopsylla †1636.—Ext. ramesis.—Oran, Algeria.

#511 *Mustela ¹ [caurina] origenes Rhoads, 1902, Proc. Acad. Nat. Sci., Phila., v. 54, 458. So. #521 Martes caurina origenes, q. v.

#511 Mustela ¹ pallida (Barret-Hamilton, 1900, Ann. Mag. Nat. Hist., ser. 7, v. 5 (25), Jan., 48 [Putorius ¹]). So. #511 [Mustela] nivalis pallida, q. v.

#511 Mustela 1 pennanti Erxleben, 1777, Syst. Regni Anim., v. 1, 470. So. #521 Martes (Pekania t) pennanti, q. v.

#511 Mustela [or Foctorius, Putorius] (#515 Putorius, Mustela], putorius Linn., 1758a, 46. Polecat, putois, Elk, Ilk, Iltis, Iltis, Ratz, Stänker, Illern. Sweden ; central Europe from central Scandinavia to northern Spain and Mediterranean coast, westward to Great Britain; eastern limit of range not known.

Isospora †161.

†bigemina.—In intestinal villi.
bigemina putorii.—Intest.—Locality not given.—T. h.

Microsoma †172.

mustelae.—Blood.—Moscow ^t.—Little evidence that bodies were parasitic, fide Wenyon, 1926a, 1064.—T. h.

Agamodistomum †240.

putorii h Molin, 1858.—Pectoral cavity, muscles.—Padua t.—T. h.

Diplostomulum < †223j.

putorii Linstow, 1877.—Larva eneysted in intest. and csophagus.— T. h.

Euryhelmis < †271. Syn. Eurysoma ho.—Intest.

squamula.—Mus. Vienna.—T. h.

Euparyphium †257.

[armata o.]

[melis.—Central Europe.]

[putorii *.—T. h.]

trigonocephalum o.—Intest.—Leipzig.

Tetracotyle $< \dagger 223j$.

foetorii.—Encysted under skin of neck, between neck muscles and on csophagus.—T. h.

Troglotrema \leq †249.

aeutum.—Ethmoid, frontal sinus, nasal cavities, intest.—T. h.

Cysticercus †326.

†eellulosae.—Trachea.—Syn. cellulosus °.

cordatus h Tschudi, 1837.—Liver, omentum.—[Germany t.—] T. h. Sparganum †293.

elliptieum.—Connective tissue.—Padua.

Taenia 1 < †299.

mustelae.[—Europe.]

putorii ho Zeder, 1803a.—Intest., liver.

tenuicollis h o Rud., 1819a, not 1810a.—Intest.

Taenia (Hydatigera) †325c.—Intest. intermedia *.

†taeniaeformis.

Taenia (Taenia) †325b. Corynosoma †501s. putorii d Gmelin, 1790a, nomen nusemerme 8. *dum.*—T. h. strumosum. Tetrathyridium < †284a. [ventricosus.—Intest.—T. h.] [bailleti.] Echinorhynchus † †502. Capillaria †372b. putorii (abdominalis).—Abd. cav. alata .- Intest., stom. - Dublin. Padua. Ireland; Italy; France. species Brems., 1811a. entomelas.—Duodenum, intest. species Par., 1894. Crenosoma <†419. Moniliformis †505. m u s t e l a e.—L u n g s.—Switzer-†moniliformis.—S t o m.—Cosmopolland t.—T. h. Dioctophyme †426. Prosthenorchis †501p. *gigas *.—Phila. erinacei.—Larva in mesentery.—N. viscerale 8. Africa. Dracunculus †439. Asca \leq †887.—Ext. \dagger medinensis. affinis.—Holland. Filaria †449.—Skin. Ceratonyssus < †891l.—Ext. martis.—Subcut. musculi.—Holland. mustelarum 1.—Subcut. Ichoronyssus †8910.—Ext. mustelarum subcutanea.--Subcut.-[arcuatus.] So. martis. Ixodes †866.—Ext. perforans 8.—Subcut., musc. †hexagonus.—England; Europe. quadrispina *.--Musc., subcut.--Euhexagonus cookei. rope. *hexagonus longispinosus. subcutanea i. †ricinus.—Europe. Filaroides < †440.—Lungs. Laelaps †900.—Ext. bronchialis. lemmi.—Holland. mustelarum.—Also frontal sinus, os species Ouds., 1896.—Holland. Listrophorus < †930a.—Ext. ethmoid.—Europe. mustelae.—Central Europe. [mustelarum pulmonalis h s.—Europe.] [mustelae-putorii.] Microtrombidium †974.—Ext. [putorius *.—Gr. Britain.] †pusillum. Oxyuris 1 †490. Zercon \leq †887.—Ext. paradoxa.—Intest.—Padua t.—T. h. species Ouds., 1896.—Holland. Skrjabingylus < †418.—Frontal sinus. Amphipsylla \leq †1626.—Ext. nasicola.—Germany.—T. h. rossica.—Charkov t, Russia.—T. h. Strongyloides †355. Putorius vulgaris. Archaeopsylla †1638.—Ext. †longus s.—Intest. Trichinella †366. †erinacei.—Germany. †spiralis.—Intest., larvae in musc. Ceratophyllus †1627.—Ext. encysted. †fasciatus.—Germany. Trichosoma 1 †372a. †gallinae.—Scotland. putorii *.—Duodenum.—C. E. V. mustelae h s.—Russia t.—T. h. Putorius vulgaris. sciurorum.—Europe. Trichostrongylus †414 or Molineus †4110. Ctenocephalides †1639.—Ext. europaeus.—Sm. intest.—Germany. [serraticeps o.] patens.—Dublin. Ctenophthalmus < †1626.—Ext. agyrtes.—Europe. Uncinaria 390B.

> bisoctodentatus.—Great Britain. uncinatus.—New Alexandria ^t, Rus-

sia.—T. h. Putorius vulgaris.

criniformis.—Intest.

Centrorhynchus †501S.

ninnii.

Neopsylla †1625C.—Ext. spinca.—Rumania t.

Palaeopsylla < †1623.—Ext.

minor.—Germany.

Paraceras < †1626.—Ext.

melis.—Europe.

Pulex †1635.—Ext.

†irritans.—Rumania.

Tarsopsylla < †1626.—Ext. [uralensis ".]

Trichopsylla < †1626.—Ext.

penicilliger of Kol.—Palaearetie Region.

rothschildi.—Hungary.—T. li.

- #511 Mustela | putorius domestica, probably for #511 Mustela | (Putorius)
- #511 Mustela 1 [or Putorius 1] richardsonii Bonaparte, 1838, Charlesworth's Mag. Nat. Hist., n. s., v. 2, Jan., 38. So. #511 Mustela (Mustela) cicognanii richardsonii, q. v.
- #511 Mustela 1 sarmatica 8 Pallas, 1771, Reise Prov. Russ. Reichs, St. Petersb., v. 1, 453. So. #510 **Vormela** * sarmatica *, q. v.
- #511 Mustela [or Kolonokus, Putorius¹, Vison¹, Viverra¹] (Kolonokus, Lutreola 1, Putorius 1) sibirica Pallas, 1773, Reise Prov. Russ. Reichs, St. Petersb., v. 2, 701. Kolinsky, Red House Stoat, Kulon. Siberia.

Crenosoma \leq †418.

taiga.—Bronchi.—Siberia ¹.—T. h.

Molineus †411Q.

sibiricus.

Trichosoma †372a. putorii.

#511 Mustela 1 species.

Euparyphium †257.—Intest. trigonocephalum o.

Chabertia †402a.

[hypostoma *.—Intest.]

Dioetophyme †426.

†renale.

Gnathostoma †473.

†spinigerum.

Demodex †855.—Hair follieles.

Ichoronyssus †891o.—Ext. is abellinus.

Ixodes †866.—Ext.

kingi.—Host i.

species Klugkist, 1909, 543.

Sarcoptes †942.—Skin. †vulpis.

Ceratophyllus †1627.—Ext.

atrox.—Blackfalls t, Alberta.—T. h. cacdens durus.—Brit. Columbia t. kaznakovi.-E. Tibet.

#511 Mustela (#514 Lutreoia) species.

Clonorchis †268.

†sinensis.—Siberian mink.

Amphipsylla < †1626.—Ext.

sibirica.—Turuehansk t, Siberia.—

Ceratophyllus †1627.—Ext.

penicilliger.—Turuchansk t, Siberia.—T. h.

Ctenophthalmus < †1626.—Ext.

[orientalis d of Roths.: Typhlopsylla 1.—England.]

Foxella \leq †1626.—Ext.

ignotus albertensis.—Alberta. ignotus recula.—Brit. Columbia.

Leptopsylla †1624.—Ext.

hamifer.—Blackfalls t, Alberta.—

Nearctopsylla < †1623.—Ext.

hygini laurentini.—New Brunswick t.—T. h.

Neopsylla †1625C.—Ext.

teratura.—E. Turkestan ^t.

Rhadinopsylla < †1626.—Ext. bivirgis.—E. Turkestan.—T. h. pentacanthus.—Europe.

Trichodectes †1100.—Ext.

retusus .

dubius.

Minks.

Dierocoelium †277.

†dendriticum.—Prince Edward Island.—Mink.

Dioctophyme †426. gigas.—Kidney.—Mink. [sanguineus d.—Mink.]

Ixodes †866.—Ext. kingi. Trichodectes †1100.—Ext. rctusus *.—Mink.

#511 Mustela (#514 Mustela r) species. Stoats, weasels.

Capillaria †372b.—Intest. cntomelas.—Weasel.

Dioctophyme †426.

[martis.—Kidney.—So. gigas=renale.—Weasel.]

[sanguineus d.—Weasel.]

Strongyloides †355. †longus *.—Weasel.

Dermacentor †873.—Ext. †*variabilis.—Weasel.

Ichoronyssus †8910.—Ext. arcuatus.—Weasel. isabellinus.—Central Europe.—Weasel.

Ixodes †866.—Ext. †hexagonus.—Weasel. *hexagonus longispinosus. species Klugkist, 1909.—Weasel. Laelaps †900.—Ext. hilaris.—Scotland.—Stoat, weasel.

Amphipsylla †1626.—Ext.

contigua locuples.—E. Turkestan *.—

White weasel.

Ceratophyllus †1627.—Ext. †fasciatus.—England.—Stoat. mustelac.—England t.—Weasel t. h

Ctenophthalmus < †1626.—Ext. agyrtes.—England.—Stoat.

Rhadinopsylla < †1626.—Ext. bivirgis.—Burkhan t, E. Turkestan.—White weasel t. h.

Trichodectes †1100.—Ext. mustelae.—Europe.—Gemeines Wiesel t. h.

*retusus *.—Ames, Iowa.—Weasel.

#511 Mustela 1 (#515 Putorius 1) species. Polecats.

Oochoristica 319K.

ichneumontis.—R h o d c s i a.—H o s t "Foetorius s species."

Ceratophyllus †1627.—Ext. kaznakovi.—E. Tibet ^t. monstrosus.—Bairam-Ali ^t. sexdentatus agilis.—Alberta. Mesopsylla < †1626.—Ext. hcbcs.—S. E. Russia. Rhadinopsylla < †1626.—Ext. accola.—Tibet t.—T. h. vicina.—E. Tibet t.—T. h.

#511 **Mustela** [or Putorius¹] (Ictis^h) **subpalmata** Hemprich & Ehrenberg, 1832, Symbol. Phys., Berlin, Sept. [art. *Herpestes leucurus*] [not paged]. Egypt[†]. Syn. #511 *Mustela numidica*, fide Trouess., 1897c, 276.

#511 Mustela ¹ [or Lutra ¹, Lutreola, Putorius ¹] (#514 Lutreola, Martes ¹, Putorius ¹) vison Schreber, 1777, Säugthiere, v. 3, 463, pl. 127b (1776). Mink, vison. Eastern Canada ¹. Several subspecies.

Distoma $1 \le \dagger 238$.

*species Stiles & Hassall, 1894e.— Maryland.

Paragonimus †250.—Lungs.

kellicotti.—France.—Host introduced into France.

Parameterchis \leq †265.

canadensis.—Gall bladder.—Kirkfield ^t, Ontario, Canada.—T. h.

Mesocestoides < †299.—Intest.

litteratus.—France.—Host introduced into France.

Dioctophyme †426.—Kidney. *aiaas *.

[gulonis-sibirici s.] [sanguineus s d.]

viscerale.

Filaria 1 †449.

*martis.—Stom.

*species Stiles and Hassall, 1894e.

Gnathostoma †473.

socialis.—Stom.

†*spinigerum.—Gastric wall.—N.
America.

Ixodes †866.—Ext.

†*eruciarius.—N. Y.

†hexagonus.

hexagonus longispinosus.

†ricinus.

Ceratophyllus †1627. Ext.

*oculatus *.—Washington ', D. C.—
T. h.

*vison.—Peterboro ', N. Y.—T. h.

Lipeurus < †1098.—Ext.

*dissimilis.—N. C.

#511 *Mustela¹ [or #514 Lutreola] (#514 Lutreola⁷, Putorius¹) vison energumenos (Bangs, 1896, Proc. Bost. Soc. Nat. Hist., v. 27, 5 [Putorius¹]) Miller, 1912, U. S. Nat. Mus., Bul. 79, 101. Devilish mink, Western mink. Sumas, Brit. Columbia, Canada⁴; western North America, from northern British Columbia south to Sierra Nevada in California and Rocky Mountains in New Mexico.

Nanophyetus < †271. *salmincola.—Northwestern U. S. A. Ceratophyllus †1627.—Ext. †acamantis.—Brit. Columbia.

Hystrichopsylla < †1623.—Ext. dippici.—Brit. Columbia. Nearctopsylla < †1623.—Ext. hyrtaci.—Brit. Columbia ^t.

#511 *Mustela | [or #514 Lutrcola, Putorius |] (#514 Lutreola | vison lutreocephala | (Harlan, 1825, Fauna Amer., Phila., 63 [Mustela |]) Miller, 1912,
U. S. Nat. Mus., Bul. 79, 101. Brown mink. Maryland | United States.
Antedated by vison mink, fide Miller, 1912 and Hollister, 1914. So. #511
Mustela | (Lutreola) vison mink, q. v.

#511 Mustela ¹ (Lutreola) vison mink (Peale & Beauvois, 1796, Cat. Peale's Mus., Phila., 39 [Mustela ¹]) Hollister, 1914, Proc. Biol. Soc. Wash., v. 27, Oct. 31, 215. Brown mink. Maryland ^t; eastern U. S. A., from coast of New England south to North Carolina, and, in the interior, to central Georgia and Alabama; westward through southern Pennsylvania and Ohio to Missouri and northeastern Texas.

Dioctophyme †426.

*renale.—Kidney.

Filaria † †435.

*dentata ho.—Muscle.—T. h.

*muscularis.—Muscle.—T. h.

Gnathostoma †473.

*spinigerum.—Stomach wall.

#511 Mustela ¹ (#514 Lutreola ¹) vison nesolestes (Heller, 1909, Univ. Calif. Publ. Zool., v. 5, 259 [Lutreola]) Miller, 1912, U. S. Nat. Mus., Bul. 79, 102. Island mink. Windfall Harbor, Admiralty Id., Alaska ¹; Alexander Archipelago, Alaska.

Trichodectes †1100.—Ext. retusus *.—Alaska.

*511 *Mustela ¹ (#514 Lutreola ¹) vison vison (Schreber, 1777, Säugthiere, v. 3, 463, pl. 127b) Miller, 1912, U. S. Nat. Mus., Bul. 79, 101. Eastern Canada ¹, west to Hudson Bay; south in interior to Catskill Mts., New York, and to northern Pennsylvania. Not found on coast south of New Brunswick.

#511 Mustela ¹ [or Foetorins ¹, Mustelina, Putorius ¹, Viverra ¹] (#513 Mustela ¹, Gale, Ictis ^h) vulgaris ¹ Schreb., 1777, Säugthiere, v. 3, 498, pl. 138 (1776). Kleines Wiesel. Central & west Europe (Brit. Ids., France, Germany). So. #511 Mustela ¹ (Mustela) nivalis.

us See also next entry. On account of confusion in name of host, both #511 nivalis and #511 putorius should be consulted in connection with the records for vulgaris.

Eimeria †163.

[var. Labbé, 1899a [based on Eimer, 1870]: Coccidium perforans.]

Treponema 1 †142f.

[marocanum: Spirochacta 1 hispanicum.—Exp.]

Taenia $1 < \dagger 299$.—Intest.

mustelac.—Europe t.—T. h.

mustelae-vulgaris o.—Europe t.—T. h. tenuicollis ho Rud., 1819a.

Capillaria †372b.—Intest.

entomclas.

Dioctophyme †426.—Kidney.

[martis.—Europe.]

Trichostrongylus †414 or Molineus †411Q.—Intest.

patens.—Rennes, France.

Echinorhynchus 1 †502.

species Wedl, 1861a.—Mesentery.— Egypt.

 $\mathbf{Asca} \leq \dagger 887. - \mathbf{Ext}.$

affinis.—Holland. Ixodes †866.—Ext.

thexagonus.—England.

hexagonus cookei.

Laelaps †900.—Ext.

crassipes.—Holland.

lemmi.—Holland.

Microtrombidium †974.—Ext. † pusillum.

Myobia †989a.—Ext.

brcvihamata.—T. h.

trouessarti.

Zercon <†887.—Ext.

species Ouds., 1896.—Holland.

Ceratophyllus †1627.—Ext.

†fasciatus.—Great Britain.

walkeri.—Great Britain.

Ctenophthalmus < †1626.—Ext.

agyrtes.—Europe.

Hystrichopsylla < †1623.—Ext.

talpae.—Europe.

Leptopsylla †1624.—Ext.

spectabilis.—Great Britain.

Rhadinopsylla < †1626.—Ext.

pentacanthus.—Tring t, England.— T. h.

Trichodectes †1100.—Ext.

dubius o.—Europe t.—T. h.

mustelae.—Palaearctic.

pusillus.—Europe.

retusus *.—Palaearctic.

#511 Putorius [Mustella m] vulgaris h o Gray in Griffith's Cuvier, 1827, Anim... Kingd., v. 5, 120, putorius renamed. So. #511 Mustela (Putorius) putorius, q. v. See also footnote 54.

Echinorhynchus †502.

species Parona, 1894a.—Rome.

Asca < †887.—Ext.

affinis.—Holland.

Ixodes †866.—Ext.

hexagonus longispinosus.—Hosti.

Microtrombidium †974.—Ext.

†pusillum.

Pediculoides †910.

pilosus.—C. Europe.

#511 Mustela ^m [for Mustelus] vulgaris Mueller & Henle, a fish.

#511 *Mustela | [or Putorius |] (#513 Mustela •, Arctogale •, Ictis h) xanthogenys Gray, 1843, Ann. Mag. Nat. Hist., London, v. 11, 118. Yellow-checked weasel. Southern California ^t.

Ixodes †866.—Ext.

*hcxagonus cookci *.—Calif.

Ceratophyllus †1627.—Ext.

*wagneri ophidius.—Calif. t

Dactylopsylla < †1626.—Ext.

bluei.—Calif. —T. h.

Foxella < †1626.—Ext.

*ignotus franciscanus.—Calif.

Neotrichodectes < †1099.—Ext.

[*mephitidis * Osborn.—Calif.]

#511 *Mustela | (#513 Mustela r, Arctogalc o) xanthogenys munda (Bangs, 1899, Proc. New England Zool. Club, v. 1, June 9, 56 [Putorius 1]) Miller, 1912, U. S. Nat. Mus., Bul. 79, 99. Point Reyes, Marin Co., California t.

> Neotrichodectes < †1099.—Ext. [*mephitidis • Osborn.—Calif.]

- #511 Mustela (#513 Mustela) xanthogenys xanthogenys (Gray, 1843, Ann. Mag. Nat. Hist., v. 11, 118 [Mustela]) Miller, 1912, U. S. Nat. Mus., Bul. 79, 99. Southern California; Sonoran and Transition faunas of California, on both sides of Sierra Nevada.
- #511 Mustela i zibellina Linn., 1758a, 46. So. #521 Martes zibellina, q. v.
- #512 (515). Brain-case narrow, mastoid width less than or about equal to distance between basion and palation; auditory bullae not triangular in outline. See #513.
- #513 (514). Mustela * 55 Linn., 1758a, 45, type erminea Linn. (quotes Mustela rulgaris Gesner).—Stoats and weasels. Rostrum convex above; inner margins of auditory bullae nearly parallel. Tail not bushy. Habits terrestrial. Form very slender; fur not modified for aquatic life. Skull without noticeably projecting mastoid processes; auditory bullae not triangular, the inner and outer borders nearly parallel; posterior border of pm 3 shearing against anterior border of pm 3; other small premolars not capable of trenchant action. Northern hemisphere, south in the Old World to northern Africa, and in the New World to the Andes; in Europe to Ireland.
- #514 (513). Lutreola Wagner, 1841, Schreber's Säugthiere, Suppl., v. 2, 239, tat. lutreola Linn.—Minks. Rostrum flattened above; inner margins of auditory bullae strongly divergent posteriorly. Tail bushy. Habits semi-aquatic. Form moderately slender; fur modified for aquatic life. Skull without noticeably projecting mastoid processes; auditory bullae subtriangular; premolars more prehensive than in Putorius; inner lobe of upper carnassial functioning against apex of pm 4; anterior border of pm 3 shearing against posterior border of pm 2; point of pm 2 opposed to posterior border of pm 2. Northern portion of northern hemisphere from eastern Germany to Atlantic coast of North America. Syns.: Hydromustela Bogdanow, 1871, Trudy Obshch. Estestvois. Kazansk. Univ., v. 1, Mem. 1, 167 [nv]; Vison of Gray, 1843, List Spec. Mamm. Brit. Mus., pp. xx, 64, mt. tat. Vison lutreola Linn. syn. Mustela vison Brisson.
- #515 (512). Putorius Cuvier, 1817, Règne Anim., v. 1, 147, tat. Mustela putorius Linn.—Ferret, polecats, putois. Brain-case broad, the mastoid width decidedly greater than distance between basion and palation; auditory bullae triangular in outline. Form moderately slender. Tail bushy; fur not modified for aquatic life. Skull with noticeably projecting angular mastoid processes; inner lobe of upper carnassial functioning against paraconid of lower carnassial; interrelationships of teeth essentially as in Mustela, but small premolars more robust and less trenchant. Mediterranean region and central Europe from Great Britain eastward into China; central United States; exact limits of range not known. Syns.: Cynomyanax e Elliot, 1905, Field Columbian Mus., Public. 105, Zool. ser., v. 6, 425, mt. nigripes; Cynomyonax Coues, 1877, Fur-bearing Anim., Wash., 99, 101, 147, mt. nigripes Aud. & Bach.; Factorius m Trouess., 1899c, Cat. Mamm., v. 2, 1394 (index); Foetorius Keyserling & Blasius, 1840, Wirbelthiere Europ., 68; Pictorius m Gray, 1869, Cat. Carn. Pachyderm., Edent. Mamm. Brit. Mus., 145.

Eumustela Acloque, 1900, Faune France, Paris, 62, contains vulgaris Brisson and herminea Liun.; Gale* Wagner, 1841, Schreber's Säugth., Suppl., Abth. 2, 234;

⁵⁵ Syns.: Arctogale o Kaup, 1829, Entw.-Gesch. Natürl. Syst. Europ. Thierwelt, v. 1, 189, tsd. (1897) 1st sp. erminea;

Ictis ^h Kaup, 1829, Entw.-Gesch. Natürl. Syst. Europ. Thierwelt, v. 1, 189, mt. Mustela ^t vulgaris Erxl., 1777, so. (tsd. 1901; 1912) nivalis Linn. [not #428 Ictis Schinz, 1824, viverridae]; Mustelina Bogdanow, 1871, Trudy Obshch. Estestvois. Kazausk. Univ., v. 1, Mem. 1, 167 [nv];

Neogale * Gray, 1865, Proc. Zool. Soc. London, no. 8, 114.

- #516 (508). Walls of bulla thin, its cavity either closed behind or opening into a spacious periotic hollow. See #517.
- #517 (529). Cavity of bulla closed behind. See #518.
- #518 (526). Teeth sectorial, approximately as in MUSTELINAE; upper carnassial longer than wide, with the talon anterior and narrow-necked, the molar wider than long, and the line of the upper incisors nearly straight. Feet scansorial and cursorial, with short sharp claws. See #519.
- #519 (524). Carpal pads not fused. Pm. 1/1 present. Baculum branched. See #520.
- #520 (522). Martinae ^r Pocock, 1922, Proc. Zool. Soc. London, pt. 4, no. 55, Jan., S32.—Martens. Two carpal pads separated by hairy space from narrow plantar pad, digital webs hairy below; no metatarsal pads. A well-developed marginal bursa on ear. No trace of pouch above anus. Pm. 1 retained above and below. Baculum with 2 or 4 branches. See #521.
- #521. Martes 156 Pinel, 1792, Actes Soc. d'Hist. nat., Paris, v. 1 (1), 55, mt. domestica Pinel so. foina Erxl.—Fishers, Martens. Skull narrow, moderately high (depth of braincase much more than half mastoid breadth), the dorsal profile moderately curved, the zygomatic arches not specially widespreading, and postorbital region not unusually narrowed (distance between region of greatest narrowing and zygoma normally less than breadth of postorbital constriction); rostrum narrow and somewhat elongate, its width noticeably less than that of interorbital region, the distance from anterior rim of orbit to gnathion exceeding width of rostrum between anteorbital foramina; auditory bullae moderately inflated, the meatal tube evident though short, the longitudinal diameter of bulla greatest; paroccipital process small, slightly projecting, partly distinct from bulla. Teeth 38 (i. 3/3, c. 1/1, pm. 4/4, m. 1/2); cutting edges of 5 small premolars (2 upper and 3 lower) capable of trenchant action; upper carnassial long and narrow, not triangular in outline and without crushing surface, the small inner lobe standing as an offset to anterointernal extremity of crown, the sectorial portion consisting of a high anterior and low posterior cusp with somewhat concave connecting ridge; upper molar pyriform or pandurate in outline, its long axis nearly perpendicular to that of tooth-row, its crown mainly flat, but with a small paracone, still smaller, sometimes obsolete metacone, and crescentic ridgelike protocone; lower carnassial wider posteriorly than anteriorly, the anterior triangle much distorted, the metaconid reduced to a well defined postero-internal process on base of protoconid, the posterior crushing heel slightly more than half as large as trenchant portion of tooth. External form slender, somewhat catlike or squirrel-like. Head moderately elongated; muzzle pointed; the ears high and conspicuous. Tail long, bushy. Feet digitigrade, the moderately long claws partly retractile. Fur long, dense and soft. Northern hemisphere from limits of tree growth south to Mediterranean, Malay Archipelago, and central U. S.; in Europe west to Ireland. See #521A.
- #521A (521B). Martes Pinel, 1792, Actes Soc. Hist. nat., Paris, v. 1, 55.— Tail moderate, not so long as body and head, bushy. Skull elongate, narrow, nose rather pronounced.
- #521B (521A). Pekania Gray, 1865, Proc. Zool. Soc. London, no. 7, 107, mt. Martes pennanti Erxl., 1777.—Fishers. Tail clongate, slender. Skull elongate, narrow; nose produced.

⁵⁶ Syns.: Mustela of Blasius, 1857, Säugethiere Deutschlands, 211, contains: martes, foina; Zibellina Kaup, 1829, Entw.-Gesch. Natürl. Syst. Europ. Thierw., v. 1, 34, tat. zibellina; ?Charronia * Gray, 1865, Proc. Zool. Soc. London, 108-109, mt. flavigula.

#521 Martes (Martes, Mustela¹) americana (Turton in Linn., 1802, Syst. Nat., v. 1, 60 [Mustela¹]) Miller, 1912, U. S. Nat. Mus., Bul. 79, 92. North American sable or marten. North America (Eastern North America¹).

Ceratophyllus †1627.—Ext.

caedens caedens.—Banff t,

Alberta.—T. h.

Nearctopsylla <†1623.—Ext. brooksi.—Brit. Columbia.

#521 Martes (Martes, Mustela 1) caurina origenes (Rhoads, 1902, Proc. Acad. Nat. Sci., Phila., v. 54, Sept. 30, 458 [Mustela 1]) Miller, 1912, U. S. Nat. Mus. Bul. 79, 93. Rocky Mountain Marten. Marvine Mountain, Garfield Co., Colorado t.

Ixodes †866.

*texanus.

#521 Martes ^t domestica ^e Pinel, 1792, Actes Soc. Hist. nat., Paris, v. 1 (1), 55. France. So. #521 Martes ^t foina, q. v.

#521 Martes [or Charronia * t] (Mustela !) flavigula (Boddaert, 1784, Elench. Anim., v. 1, SS [Mustela !]) Blyth, 1858, J. Asiat. Soc. Bengal, Calcutta, v. 26, 316. Indian Marten, Kusiar, Angra Prao, Chitrála, Huniah, Kasia, Múl sampra, Sakku, Tuturala. Throughout Himalayas from west of Kashmir to eastern extremity of Assam; Burma, Malay Peninsula, Sumatra, southern China and Amurland, India.

Ixodes †866.—Ext. spinicoxalis.—Sumatra t.—T. h.

Trichopsylla < †1626.—Ext. a p p r o p i n q u a n s . — U s s u r i Region. t.—T. h.

#521 [Martes or] Charronia a flavigula koreana Mori, 1922, Ann. Mag. Nat. Hist., ser. 9, v. 10 (60), Dec., 610. Korio t, near Seoul, Korea.

Diphyllobothrium †295. †mansoni.—Korea.

#521 Martes [or Viverra 1] (Martes, Mustela 1) foina (Schreb., 1777, Säugth., v. 3, 472, pl. 129 (1776) [Mustela 1]) Billberg, 1827, Syn. Faunae Seand., v. 1 (1), 9. Beech marten, Stone marten, white-breasted marten, fouine, Hausmarder, Steinmarder, Dalla kafak. Germany t; central and southern Continental Europe, from Atlantic coast eastward, and from the Mediterranean to the Baltic.

Treponema †142f.

[buccalis mustelae.—Mouth.—Lausanne t.—T. h.]

Euparyphium †257.

[melis.—Central Europe.]
trigonoccphalum o.—Small intest.

Mesocestoides < †299.—Intest. litteratus.

Sparganum †293.

ellipticum.—Muscles.—Italy.

Taenia (Hydatigera) †325c.—Intest. conocephala o.—Paris t, France; Italy.—T. li.

†crassicollis .- Switzerland.

foinac *.—Fontainebleau *, France.— T. h.

intermedia .

 $\dagger taeniae form is.$

Tetrathyridium $\leq †284a$.

[martis *.—Thoracic cavity, abdomen.]

Ascaris 1 †479.

gulonis.—Host i.

Capillaria †372b.

alata 8.

entomelas.—Intest.—Rennes.
mucronata.—Urinary bladder.

Dioctophyme †426.

†*gigas ".—Rennes; Boston. †viscerale ".

Echinorhynchus 1 †502.

depressus.—Wall of duodenum.— Europe.

Filaria + †435, †449.

martis.—Subcut., abdominal and thoracic cay.

medinensis h s. mustelae-foinae h s.—Europe. mustelarum r s.—Europe. mustelarum subeutanea.—Subcut., intermusc.—C. E. V. perforans *.—Interpericardium and cor, in thoracic and abdom. cavities, subcutaneous. quadrispina .-- Muscles and subcutaneous.—Trieste, Cittanova, Italy.—T. h. species Parona, 1894a. subcutanea. Filaroides < †440.—Lungs. bronchialis.—Europe. [mustelae foinae *.] [mustelarum 1.] [mustelarum 1 pulmonalis h o.] Strongylus 1 †378a. foinae i o.—Lungs.—Europe.

Skrjabingylus < †418.—Frontal sinus.

[mustelarum.—Os ethmoid.]

nasicola.—Os ethmoid.

Euparyphium †257.

Thelazia †464. lacrymalis.—Eye. Toxocara †484.—Intest. [mustelarum o.—Europe.] mystax o. Trichinella †366.—Muscles. †spiralis. Trichosoma †372a. putorii.—Russia. Ixodes †866.—Ext. thexagonus hexagonus. †ricinus. Psoroptes †938.—Ext. communis cuniculi.—Ear.—France. Sarcoptes †942.—Ext. scabiei cuniculi d.—Exp.—France. Neopsylla †1625C.—Ext. [microctenus.—Europe t.—T. h.] Trichodectes †1100.—Ext. retusus *.—Europe t.—T. h. Trichopsylla < †1626.—Ext. penicilliger of Kol.—Europe.

#521 Martes (Martes) foina foina (Schreb., 1777, Säugth., v. 3, 472, pl. 129 (1776) [Mustela 1]) Miller, 1912a, Mammals of Western Europe, 375. Beech marten, stone marten, white-breasted marten; fouine; Steinmarder, Hausmarder. Germany t; W. Europe.

Ceratophyllus †1627.—Ext. †fasciatus.—Switzerland. sciurorum.—Formazza, Italy.

#521 Martes [or Viverra 1] (Martes, Mustela 1) martes (Linn., 1758a, 46 [Mustela 1]) Thomas, 1911, Proc. Zool. Soc. London, March, 139. Pine marten, martre commun, Baummarder, Edelmarder, Marder, Mården, Skogmåren. Upsala, Sweden 1; entire wooded region of Europe, from Ireland eastward into Asia, and from the Mediterranean coast and islands northward to limits of tree growth.

[melis.—Central Europe.]
trigonocephalum °.

ANOPLOCEPHALINAE †318.
species Galli-Valerio, 1931.—Ova in feces.

Taenia ¹ < †299.
mustelae.—Europe.
serrata martis °.—Europe t.—T. h.

Taenia (Hydatigera) †325c.—Intest.
intermedia s.—Germany t.—T. h.
servata m for serrata.

†taeniaeformis.
Tetrathyridium < †284a.
[martis *.—Thoracic cavity, abdomen.—Europe *t.—T. h.]

[giganteus °.]
gigas *.—Rennes; Florence.
[gulonis-sibirici.]
[martis *.]
renale.
[sanguineus d *.]
viscerale.

Eucoleus < †369.
aerophilus [s. aeorophyllum m.]
Filaria * †449.
martis.—Subcutaneous.—Europe.
mustelarum *.—Subcutaneous.—E urope.
mustelarum subcutanea *.
perforans *.—Musc., subcut.

Dioctophyme †426.—Kidney.

Parma, Italy; Europe.

Filaroides < †440.—Lungs.

bronchialis *.—Europe.—So. mustelarum, fide Mol., 1858c, 419[.—If Mol. is correct in regard to syn., bronchialis becomes valid name of species.]

[martis.]

[mustelae-martis *.]

[mustelarum pulmonalis dho.— Europe.—T. h.]

Skrjabingylus < †418.—Frontal sinus. [mustelarum 1.]

Toxocara †484.—Intest.

[martis h s.]

 $[mustelarum \circ.]$

mystax o.

Trichinella †366.—Intest., museles. † spiralis.

Trichuris †370. [nitzschi.—"Broneh."]

Ixodes †866.—Ext.

thexagonus hexagonus. hexagonus inchoatus. t ricinus.

Ceratophyllus †1627.—Ext. †fasciatus.—Switzerland. sciurorum.—Brit. Isles.

Leptopsylla †1624.—Ext. bidentata.—Europe.

†musculi.—Europe.
Tarsopsylla <†1626.—Ext.
[uralensis *.]

Trichodectes †1100.—Ext. retusus *.

Trichopsylla < †1626.—Ext. matina.—Pyrenees t.—T. h. penicilliger of Kol.—Europe.

Typhloceras < †1623.—Ext. [bisnovemdentatus i.—Europe.]

#521 Martes (Martes) martes martes (Linn., 1758a, 46 [Mustela l]) Miller, 1912a, Mamm. W. Europe, 372. Vicinity of Upsala, Sweden t; Europe north of Mediterranean region, from Ireland eastward into Asia.

Ceratophyllus †1627.—Ext. †fasciatus.—Formazza, Italy.

#521 [Martes] [or Putorius 1] (Martes) melampus (Wagner in Schreb., 1840, Säugth., Suppl., v. 2, 229 [Mustela 1]). Schwarzfüssiger Marder. Japan.

Paragonimus †250.—Lung. †westermani.—Japan.

#521 Martes (Pekania ^t, Mustela ¹) pennanti (Erxl., 1777, Syst. Regni Anim., v. 1, 470 [Mustela ¹]) Gray, 1865, Proc. Zool. Soc. London, no. 7, 107. Black eat, Fisher, Pekan, Pennant's marten, Wood-shoek. E. Canada ^t.

Ixodes †866.—Ext.

*texanus.—Washington State.

#521 Martes species. Fishers, Martens, Sables.

Clonorchis †268.—Liver. †sinensis.

Dioctophyme †426.

[sanguineus.—Marten.]

Filaroides †440.—Lung. bronchialis.

Tarsopsylla < †1626.—Ext.
[uralensis *.]
Trichodectes †1100.—Ext.

mustelae.

#521 Martes [Viverra 1] (Martes, Mustela 1) zibellina (Linn., 1758a, 46 [Mustela 1]) Grevé, 1894, Nova Aeta Aead. Leop., Halle, 174, 268. Sable, Zobel. Northern Tobolsk 1, N. Asia 1; subarctic regions of continent of Europe (not in Scandinavia) extending through Siberia.

METASTRONGYLIDAE †418, META-STRONGYLINAE †419. species.—Lung tissue.—Leningrad. Soboliphyme 423B. baturini.—Kanitschatka.—T. h.

Ceratophyllus †1627.—Ext. †fasciatus.

Tarsopsylla <\dagger*1626._Ext. [uralensis 8.—Altai Mts.]

#521 Martes zibeliina yeniseensis Ognew, 1925, J. Mamm., Balto., v. 6 (4), Nov., 277-278. Yenisei sable. Krasnojarsk district t, the forest on the plain along Yenisei River; ranges over the great forests of districts of Krasnojarsk, Ashinsk, and Kansk.

> Eimeria †163. sibirica.—Russia t.

#521 Martes zibeliina zibellina (Linn:, 1758a, 46 [Mustela]) Ognew, 1925, J. Mamm., Balto., v. 6 (4), Nov., 276-277. Northern Tobolsk t, N. Asia.

> Eimeria †163. sibirica.—Russia t.

#522 (520). GULONINAE Miller, 1912a, Cat. Mamm. W. Europe, London, 432-433.—Wolverines.—Chiefly distinguishable from the Martinae by having the preorbital foramen in front of the orbit, the bullae small, auditory tube long, occipital region short, mastoid large, upper anterior premolars separated from the lower, and the metaconid of the lower carnassial suppressed. ern forested portions of the Northern Hemisphere. See #523.

- #523. Guio Pallas, 1780, Spicil. Zool., Berolini, fasc. 14, 25; Storr, 1780, Prodr. Meth. Mamm., 34, tab. A, tsd. (1901) Ursus luscus Linn., tsd. (1924) Gulo sibiricus Pallas so. (1924) Ursus ¹ gulo Linn. (tsd. 1901; 1904; 1912).—Wolverine, Vielfrass. Skull heavily built, rather narrow but not so high as in Martes (depth of brain-case slightly more than half mastoid breadth), dorsal profile strongly curved downward anteriorly, zygomatic arches not specially widened, and postorbital region not unusually narrowed (distance from point of greatest narrowing to zygoma less than breadth of postorbital constriction); rostrum short and very robust, its width about equal to that of interorbital region, the distance from rim of orbit to gnathion about two-thirds length of brain-case; auditory bulla inflated along inner border, elsewhere rather flat, the meatus forming an ill-defined, gradually narrowing tube, the transverse diameter of bulla greatest; paroccipital process robust, long, standing out conspicuously behind bulla. Teeth 38 (i. 3/3, c. 1/1, pm. 4/4, m. 1/2), teeth relatively lower, wider and more robust than in Mustela (their actual size conspicuously greater); small premolars almost directly opposed, not fitting between each other when jaws are shut, and only pm3 and pm4 capable of being brought in contact; lower carnassial with crown wider anteriorly than posteriorly, metaconid absent, the area of posterior heel only about one-fifth that of cutting portion of crown. External form short and heavy, almost bear-like. Head moderately pointed; cars small, nearly concealed by the fur. Tail very short, not so long as head, densely bushy with hairs much longer than itself. Legs short, feet large, digitigrade, claws moderately long, partly retractile. Fur long, soft and dense. forests of Northern Hemisphere; in Europe confined to Scandinavia and northern Russia.
- #523 Guio arcticus · Desm., 1820, Encycl. méth., Mamm., v. 1, 174, renaming of gulo. So. #523 Guio gulo, q. v.

#523 Gulo arctos · Kaup, 1829, Entw.-Gesch. Natürl. Syst. Europ. Thierw., Th. 1, 68, 69. So. #523 Gulo gulo, q. v.

#523 Gulo | barbatus Desm., 1820, Encycl. méth., Mamm., v. 1, 175. So. #525 Tayra barbara, q. v.

#523 Guio borealis Nilsson, 1820, Skand. Faun., v. 1, 95, pl. 31 [nv]. So. #523 Gulo guio, q. v.

#523 Gulo [or Ursus 1] gulo (Linn., 1758a, 45 [Mustela 1]) Illiger, 1811, Prodr. Syst. Mamm., 129. Fielfrass, gemeiner Vielfrass, Järfven. Lappland ; northern forests of Old World; in Europe, confined to Scandinavia and N. Russia.

Opisthorchis †267.—Liver. tfclineus.

tenuieollis.

Pseudamphistomum †270.—Liver. ttruneatum.

Diphyllobothrium †295.

†mansoni.—Larva.—Korea.

Ascaris 1 = Fusaria †479.—Intest.; jejunum.

gulonis h.—Europe.

gulonis.—Europe t.—Host i.

Dioctophyme †426.

†gigas *.—Omentum.—So. renale.

†viseerale ".—So. renale. Strongylus 1 †378a.

[gulonis: Cystic .1—Europe.— Lungs.—Host confusion?—Syn, Str.

foinae.]

#523 Gulo [or Mcles 1] (Gulo) luscus (Linn., 1758a, 47 [Ursus 1]) Sabine, 1823, Franklin's Narrative Journey to Polar Sea, 650. American Glutton, Hudson Bay Wolverene, Quick-Hatch, Wolverene, Wolverine, Fjellfrasen. America (Hudson Bay t); Asia; N. Europe.

Bothriocephalus 1 < †286.

[species Stiles & Hassall, 1894e.]

Dioctophyme †426.

[gulonis-sibirici *.]

viscerale.

Trichodectes †1100.—Ext. retusus .

#523 Gulo luscus * of Trouess., 1910, Faunc Manim. Europe, Berlin, 71 [not luscus Linn., 1758a, 47]. So. #523 Gulo gulo, fide Miller, 1912, 434.

#523 Gulo sibiricus h s Pallas, 1780, Spic. Zool., v. 14, 35, pl. 2 [not #511 Mustela (Kolonokus) sibirica]. Wolverines. So. #523 Gulo gulo, fide Miller, 1924, U. S. Nat. Mus., Bul. 128, 128.

#523 Gulo species.

Opisthorchis †267.—Liver.

†felineus.

Dioctophyme †426.

†renale.—"Wild glutton." [sanguineus o.—"Glutton."]

Soboliphyme 423B.

*baturini.—Montana.—Stomach.

#524 (519). TAYRINAE Pocock, 1922, Proc. Zool. Soc., London, pt. 4, no. 55, January, 833.—Differs from Martinae and Guloninae as follows: Two carpal pads fused into a large mass as large and as wide as the large plantar pad and in contact with it; large metatarsal pad present; interdigital webs naked. Bursa shallow, remote from the posterior edge of the car. Pm. 1/1 absent. Baculum apically unbranched. Shallow subcaudal pouch present. See #525.

#525. Tayra Oken, 1816, Lehrb. Naturg., Zool., Th. 3, Abt. 2, pp. xi, 1001, tsd. (1904; 1911; 1924) Mustela barbara Linn.—Tayra. Much like Grison but tail much longer (almost as long as body without head). No whitish band on front and sides of head or on throat. With additional characters

of subfamily. Central and South America. Syns.: Galera Browne, 1789, Civil & Nat. Ilist. Jamaica, pt. 2, book 3, 485, pl. 49, fig. 2, mt. barbara Linn.; Gray, 1843, List Spec. Mamni. Coll. Brit. Mus., pp. xx, 67, mt. barbara Linn.; Laïra Cuvier, 1826, Hist. nat. Manm., V, livr. 55, pl. with 2 pp. text under "le Galéra," Sept. (new name for Galera Browne, 1789). Cf. Eira Smith, "1839" or 1842 or 1858; Eirara Lund, 1839; and Eiraria Gray,

#525 Tayra [or Galera, Galictis 1, Gulo 1, Putorius 1, Viverra 1] (Galera, Tayra) barbara (Linn., 1758a, 46 [Mustela]) Thomas, 1911, Proc. Zool. Soc. London, 138. Tayra, Hyrare, Irára Papa-mél. Central and South America (Brazil ^t).

Diphyllobothrium †295. reptans.—Larva. Subcutaneous. Dioctophyme †426.

viscerale.

Filaria †449. martis.—Skin.

mustelae-barbarae o.—Brazil. perforans s .-- Thorax.

quadrispina s.

Prosthenorchis †501p.—Intest. elegans.

Amblyomma †881.—Ext. †fossum.

Rhopalopsyllus †1635A.—Ext. australis tamoyus.—São Paulo, Bra-

Trichodectes †1100.—Ext. barbarae.—Brazil t.—T. h.

#525 Tayra [or Galera o, Grison 1] (Galera o, Tayra) barbara senex (Thomas, 1900, Ann. Mag. Nat. Hist., ser. 7, v. 5, Jan., 146, 147 [Galictis 1]) Miller, 1912, U. S. Nat. Mus., Bul. 79, 103. Gray-headed Grison, Cabeza, Cabeza de Viejo. Hacienda Tortugas, Jalapa, State of Vera Cruz, Mexico^t.

> Diphyllobothrium †295. reptans.—Subcutaneous.

#526 (518). Teeth not of sectorial type; upper carnassial about as wide as long, with the talon median and arising by a long base from the blade; molar about 3 times the size of carnassial, as long as wide; lower carnassial with a long wide heel, and the metaconid as large as the other cusps; upper incisive line curved. Feet fossorial, with long powerful claws. See #527.

#527. Melinae [†] Baird, 1857, Mamm. N. Amer., 148, 190.—Badgers. carpal pads separated by a naked or hairy space from wide plantar pad; interdigital webs naked below, narrow between the digital pads; third and fourth digits of hind foot in contact; a well-developed, partially divided metatarsal pad. No trace of bursa on car; rhinarium very deep beneath lateral slits of nostrils. A deep subcaudal glandular pouch. See #528.

#528. Meles Brisson, 1762, Regnum Anim., 183, 249, tat. meles Linn.; or Meles Storr, 1780, Prodromus, 34, tat. Ursus ¹ meles.—True badgers, blaireau, Dachs. Skull narrow and high (depth of brain-ease much more than half mastoid breadth), zygomatic arches not widely expanded, and postorbital region not specially narrowed (distance from point of greatest narrowing to zygoma less than breadth of postorbital constriction); rostrum clongate, distance from orbit to gnathion about three-fourths length of brain-case; auditory bulla elevated along inner margin, but elsewhere somewhat flattened, the meatal tube distinct; paroccipital process robust, standing out conspicuously behind bulla; teeth 38 (i. 3/3, c. 1/1, pm. 4/4 (in adults usually 3/4, due to early disappearance of the small pm¹), in. 1/2), teeth not specially enlarged as compared with width of rostrum and palate (greatest transverse diameter of upper carnassial equal to a little more than onethird distance between carnassials); 3 small premolars (1 upper and 2 lower) capable of trenchant action; upper carnassial with crown triangular in outline, the cutting portion consisting of a single large anterior cusp with its slightly developed anterior commissure and more distinct posterior commissure, the crushing portion represented by the obliquely sloping inner base of this cusp and ridge; upper molar rhombic in outline, its crown area about 3 times that of carnassial, its greatest diameter in axis of tooth-row, the 4 primitive cusps present; lower carnassial with the 3 anterior cusps well developed, subequal, the posterior heel decidedly larger than anterior triangle; external form heavy. Head pointed; ears short but plainly visible. Body thick. Tail short, not muscular. Feet subplantigrade, toes with long fossorial claws and without webs. Fur coarse and loose. Northern temperate portions of Old World; in Europe from central Scandinavia to the Mediterranean, and from Ireland castward. Syns.: Melesium a Rafinesque, 1815, Analyse Nature, Palernie, 59, new name for Taxus Cuv.; Taxus a Geoffr. & Cuv., 1795, Mag. encycl., v. 2, 184, 187, tsd. (1904) Ursus meles.

#528 Meles anakuma Temminek in Siebold, 1844, Fauna Japon., Mamm., 30. Japan.

#528 **Meles arenarius** Satunin, 1895, Arch. f. Naturg., 111 [**Meles** taxus h]. Caucasus t. So. #528 **Meles** taxus h, fide Trouess., 1897e, Cat. Mamm., v. 1, 254.

Paraceras < †1626.—Ext.

melis.—Palaearetic region.

#528 **Meles** communis o Billberg, 1827, Synop. Faunae Scandinaviae, v. 1 (1), 16 [nv], meles renamed. So. #528 **Meles meles**, q. v.

#528 Meles europaeus · Desm., 1816, Nouv. Diet. Hist. nat., v. 3, 465, meles renamed. So. #528 Meles meles, q. v.

#528 Meles 1 labradorius (Gmel. in Linn., 1788, Syst. Nat., ed. 13, v. 1, 102 [Ursus 1]) Meyer, 1796, Zool. Archiv., v. 2, 45. So. #544 Taxidea t labradoria, q. v.

#528 Meles leptorhynchus Milne-Edwards, 1867, Ann. Sci. Nat., Zool., Paris, v. 8, 374. Blaireau. North China ; Arakan; Assam; Nepal; Sylhet; East Yunnan. So. Meles leucurus, fide Trouess., 1897e, Cat. Mamm., v. 1, 255; var. of Meles taxus , fide Grevé, 1894, Nova Acta Acad. Leop., Halle, 151.

Physaloptera 470*H*. species Schwartz, 1926.—Liver.—China.

#528 **Meles** (Taxidia ^m) **leucurus** (Hodgson, 1847, Proc. Zool. Soc. London, pt. 15 (177), Nov. 10, 116 [Taxidea ¹]) Hodgson, 1847, J. Asiatic Soc. Bengal, v. 16, 763. Tibetan Badger, Túmphá. Arakan; Assam; China; Nepal; Plains of Tibet ¹; Yunnan.

#528 Meles [or Taxus o] (Meles) meles (Linn., 1758a, 48 [Ursus 1]) Illiger, 1811, Prodr. Syst. Mamm., 130. European Badger, gemeiner Dachs. Upsala, Sweden t; Europe, west to Ireland, south to Mediterranean and north to central Scandinavia. Eastern limits of range not known. Several subspecies.

Endamoeba †37. [†dysenteriae d.] #528 Meles meles meles (Linn., 1758a, 48 [Ursus 1]) Miller, 1912, Mamm. W. Europe, 348. Upsala, Sweden t; central and southern Europe from southern Sweden to Pyrences and Italy, and from Ireland eastward; eastern limit of range not known.

Euparyphium †257.—Intest.

[melis.—Europe t.—Dachs t. h.] $trigonocephalum \circ.$

Harmostomum \leq †239S.

helicis.—Seandinavia.

leptostomum.—Intest.—Meles taxus • t. h.

Mesocestoides < †299.—Intest.

angustatus.—Europe.—Meles taxus o t. h.

lineatus.—Britain.

Oochoristica 319K.—Intest.

incisa.—Chateaudun t.—Meles taxus o t. h.

Taenia | <†299.—Intest.

secunda h.—Sweden t.—Meles taxus o

species Léon, (1911), 1924.— Rumania.

Tetrathyridium < †284a.

[taxi.—Thoracic cavity.—M. C. V.— Meles taxus o t. h.]

Agamonema †375.—Muscles. affine B.

Ancylostoma †387.—Intest.

 $\dagger caninum.$

Crenosoma \leq †419.

species Rail., 1899c.—Bronehi.— France.

Filaria †449.—Connective tissue.

perforans .- Greifswald.

Liorhynchus < †495.—Intest. truncatus.—Greifswald.

Oxyuris †490.—Large intest. alata.

Trichinella †366.

†spiralis.

Trichosoma †372a.—Intest. [species Bockum, 1888.]

Uncinaria 390B.—Intest.

criniformis.—Germany t.—T. h. [$melinus \circ$.]

melis B.

Demodex †855.—Hair follicles. melesinus.—England.

Ixodes †866.—Ext.

auricularis.

canisuga.—Russia.

crenulatus.—Germany t.—T. h.

†hexagonus.

hexagonus inchoatus.—Skin.—Wales; England.

mellinus.

†ricinus.

Ceratophyllus †1627.—Ext. sciurorum.—Europe.

Gasterophilus †1572.

equi d s.—Larvae in stom.

Paraceras < †1626.—Ext.

melis.—Europe.

Pulex †1635.

irritans.

Trichodectes †1100.—Ext.

crassus o.—Europe t.—T. h.

melis.—Europe t.—T. h.

Trichopsylla < †1626.—Ext.

globiceps.—Rotterdam Zoo. trichosa.—Switzerland.

[vulpes o: Pulex¹.]

#528 Meles meles marlanensis (Graells, 1897, Mém. Real Acad. Cien., Madrid, v. 17, 170 [Meles taxus]) Miller, 1912a, Cat. Mamm. W. Europe, 352. Iberian Peninsula (Central Spain t).

Trypanosoma †94.—Blood.

pestanai.—Collares t, Portugal.—Syn. pestani m Wenyon, 1926a, 1359.—Meles taxus • t. h.

Probably largely Meles meles meles. #528 Meles species. Badger, blaireau.

Clonorchis †268.—Liver.

†sinensis.

Euparyphium †257.

[melis.—Europe.]

Metagonimus †273.

species Onji, 1921.—Japan.

Paragonimus †250.—Lungs.

twestermani.

Ascaris †479.—Intest. species Onji, 1921.—Japan.

Eucoleus < †369.

aerophilus.

Toxocara †484.—Small intest. melis.—Mus. Brussels.

Trichuris †370.—Intest.

[species Onji, 1921.—Japan.]

Ixodes †866.—Ext.

hexagonus inchoatus.

*kingi.

treduvius .

Gasterophilus †1572.

equi d s.—Larvae in stom.

Paraceras < †1626.—Ext.

flabellum.—Turkestan.

melis.—Brit. Isles.—Badger t. h.

Trichopsylla < †1626.—Ext.

globiceps.

trichosa.

#528 Meles taxus b o Boddaert, 1784, Elenchus Anim., v. 1, 80. Common European badger, gemeiner Dachs, Gräflingen, Svintoks. Europe. So. #528 Meles meles meles, q. v. There is a confusion between Meles taxus b 1784 so. Meles meles of Europe, and Meles taxus 1777 so. #544 Taxidea taxus, q. v., of America.

#528 Meles vulgaris • (Tiedemann, 1808, Zoologie, v. 1, 376 [Taxus •], renaming of Ursus ¹ meles) Leunis, 1883a, Synop. Thierkunde, v. 1, 198. Gemeiner

Dachs. So. #528 Meles meles, q. v.

#529 (517). Cavity of bulla opening into a large or very large hollow space in mastoid portion of periotic. See #530.

#530 (548). Palate produced posteriorly, so that mesopterygoid fossa is far behind molar teeth; baculum, where known, a stout bone. See #531.

#531 (534). Rhinarium a subcircular flattish disk, continued to edge of upper lip by a narrow long philtrum resembling it in texture; nostrils anterior, above middle of rhinarium; lateral slits almost obliterated. Feet fossorial, with pads of second, third, fourth, and fifth digits united nearly to their apices. See #532.

#532. MYDAINAE Pocock, 1922, Proc. Zool. Soc. London, pt. 4, no. 55, Jan., 834.—Skull with muzzle and dentition much as in Melinae, but frontal postorbital processes absent, zygomata and mandible slender, and mastoid not produced below auditory orifice; cavity of bulla ceasing just behind petrous portion of periotic, and opening laterally into hollow of mastoid portion of periotic by a single orifice as in Mephitinae; pinna of ear reduced to a simple rim. No subcaudal pouch. See #533.

#533. Mydaus Cuvier in Geoffr. & Cuv., 1821, Hist. nat. Mamm., v. 2 (27), April, 2, mt. meliceps.—Stinkdachs, Telagon, Teledu. Teeth 38 (i. 3/3, c. 1/1, pm. 4/4, m. 1/2); cranium elongate, face narrow and produced; suborbital foramen small, palate produced backward about midway between last molar tooth and glenoid fossa; head pointed in front; snout produced, mobile, obliquely truncated, nostrils inferior. Legs rather short, stout. Tail extremely short, clothed with rather long bushy hair. Anal glands largely developed, emitting an odour like that of the American skunks. Java; Sumatra. Syns.: Midaus • Cuvier, 1825 [1823], Cuvier's Recherches Oss. Foss., nouv. éd., v. 4, 241, 474; Mydaon • Gloger, 1842, Hand-u. Hilfsbuch Naturg., v. 1, pp. xxix, 57.

#533 Mydaus species.

Physaloptera 470H.—Stom. mydai.—Kalabit Co.^t, Borneo.—T. h.

- #534 (531). Rhinarium normal, nostrils much nearer its lower than its upper edge, the lateral slits long; no trace of philtrum and no groove on upper lip. Pads of second, third, fourth, and fifth digits free. See #535.
- #535 (545). Tympanic annulus projecting as a free ridge into bulla, not confluent with its roof, the posterior rafter arched high above petrous, leaving a large space between the chambers, of which the posterior is not multiloculate; bullae encroaching on glenoid in front. See #536.
- #536 (542). Teeth sectorial, in a general way like those of MARTINAE; occipital crest inclined backward and inward from mastoid, not semicircular from back view. See #537.
- #537 (539). MELLIVORINAE Gill, 1872a, Arrangement Fam. Mamm., Smiths. Misc. Coll. no. 230, 6, 66.—Periotic hollow, comparatively small, not extended to tip of mastoid, which, like the paroccipital, stands prominently away from bulla, the latter rounded in front and remote from hamular; palatine foramina on suture; lower carnassial without metaconid; last lower molar lost; upper molar with wide cingulum; pinna of car reduced to an integumental thickening. A glandular pouch round anus. Feet very broad; digits closely tied; large carpal and metatarsal pads in contact with wide plantar pads. See #538.
- #538. Mellivora 57 Storr, 1780, Prodr. Meth. Mamm., 34, tab. A, tsd. (1900; 1904; 1924) ratel Sparrman so. (1924) capensis Schreb.—Ratels, honey-badgers. Body stout. Legs short, strong; fore claws very large. Tail short. No external ear. Coloration peculiar: upper parts whitish; lower parts, legs, and muzzle, uniformly black. Mammae 4. Anal glands well developed, one opening on each side of anus. Feet naked below, on hind feet the naked sole extends to the heel. Teeth 32 (i. 3/3, c. 1/1, pm. 3/3, m. 1/1); no lower tubercular molar; upper tubercular (or truc) molar much broader than long, thus being transverse and more or less dumbbell-shaped, as in MUSTELINAE; upper sectorial large, with the inner tubercle quite at the anterior end; heel of lower sectorial very small. Vertebrae: C. 7, D. 14, L. 4, S. 4, Cd. 15. India, Africa.
- #538 Mellivora ^t [or Gulo ¹, Ratelus] capensis (Schreb., 1777, Säugth., v. 3, 450, pl. 125 (1776); Erxl., 1777, Syst. Anim., 493 [Viverra ¹]) Grevé, 1894. Nova Acta Leop., Halle, 160. Honig-Ratel, Kapischer Honigdachs. Africa. Syn. Mellivora ratel. There may possibly be some confusion in regard to the host of the parasites, cf. #540 capensis.

SARCOSPORIDIA †149.—Striated muscles.

[species Viljoen, 1921: Sarkosporidien.—S. Africa.]

Diphyllobothrium †295.

 $decipiens \circ.$

 $\dagger latum.$

Mesocestoides < †299.—Intest.

caestus.—London Zoo, from N. E. Africa^t.—Mellivora ratel ^s t. h.

Filaria †449.

martis.—Host confusion?—Subcut.— Eritrea; Africa.

perforans.—Host confusion?—Africa. quadrispina s.—Host confusion?
Eritrea, Africa.

Physaloptera †469.—Stom.

elegantissima.—Eritrea, Africa.

species Monnig, 1924a, 449.—Intest.—Transvaal.

Trichuris †370.

[species Chatin, 1874.—Anal glands.]

Ratellus Cuvier, 1827, Griffith's Cuvier, Anim. Kingd., v. 5, 118;

Ratelus · Bennett, 1830, Gardens Menagerie Zool. Soc., Chiswiek, v. 1, 13, mt. mellivorus Bennett, from India;

Rattelus m Palmer, 1904a, Index Gen. Mamm., 601;

Ursitaxus • Hodgson, 1835, J. Asiatic Soc. Bengal, v. 4 (45), Sept., 522, mt. inauritus Hodgson; Ursotaxus • Blyth, 1840, Cuvier's Anim. Kingd., London, 86, mt. inauritus.

⁸⁷ Syns.: Melivora o Gray, 1847, List Osteol. Spee. Brit. Mus., pp. x, 19;

- #538 Mellivora [or Melivoras] ratel (Sparrman, 1777, K. Vet. Akad. Handl., Stockholm, v. 38, 147, pl. 4, fig. 3 [Viverra 1]) Gray, 1843, List Mamm. Coll. Brit. Mus., 68. Ratel, Honey-Ratel, Icelesi, Sisele, Indundundwana, Africa (from Cape t to French Congo and Nubia). So. #538 Mellivora capensis, q. v.
- #539 (537). ICTONYCHINAE Poeoek, 1922, Proc. Zool. Soc. London, pt. 4, no. 55, Jan., 835.—Periotic hollow larger, extending to tip of mastoid, which, like the paroceipital, is close to the bulla; the latter pointed in front and fused with hamular; palatine foramina on maxilla; lower carnassial with high acute metaconid; last lower molar retained; upper molar without wide cingulum. Ears with large pinna. Feet narrow; claws long; digits widely separable; pads small, earpals separated from plantar pad; metatarsal absent. Circumanal integument unmodified. See #540. Syn. zorillinge Gill, 1872a, Arrangement Fam. Mamm., Smiths. Mise. Coll. no. 230, 6, 66.
- #540 (541). Ictonyx 58 Kaup, 1835, Thierreich, v. 1, 352, mt. capensis Kaup so. (tsd. 1904) zorilla Erxl., tsd. (1900) striata.—African striped-zorillas, striped zorilles, striped muishond, Bandiltiss, Kralleniltisse, Zorillen. Teeth 34 (i. 3/3, c. 1/1, pm. 3/3, m. 1/2); upper molars smaller than earnassial and narrow from before backwards; lower earnassial with small narrow talon and distinct inner eusp. Form mungoose-like with pointed snout. Legs short; fore feet large and broad, with 5 stout, nearly straight, blunt, and nonretractile elaws, of which I and V are considerably shorter than II to IV. Tail moderate, with longer hairs toward the end, giving it a bushy appearance. Hairs generally long and loose. Africa.
- #540 Ictonyx [or Zorilla o] capensis * Kaup, 1835, Thierreich, v. 1, 353. Cape Polceat, Stink eat, Stink Muishond, striped Muishond, Capische zorille, Iqaqa. Cape of Good Hope to Senegal, Africa. So. #540 Ictonyx zorilla. Cf. also #538 Mellivora capensis for possible confusion in records of parasites.

#540 Ictoryx [or Zorilla o] libyca Hempr. & Ehrenb., "1832," Symb. Phys. Mamın., 2. Libyan Zorille. Libya t; Asia Minor; N. Africa.

Hartertia 470b2.

zorillae.—Algeria t.—Subcutaneous.

Seuratum $\leq 459t$.—Intest.

tacapense.

Spirura 468e.

gastrophila de.—Esophagus.—N.

Myoxopsylla $\leq †1626.$ —Ext. [copulabilis *.—Tunisia t.] Synosternus $\leq †1634.$ —Ext. cleopatrac.—Algeria.

Trichodectes †1100.-Ext.

zorillae.—Tunisia.

- #540 [Ictonyx] [or Zorilla o] mustelina o Wagner in Schreb., 1841, Säugth., Suppl., v. 2, 219, pl. 133A [Rhabdogale], renaming of zorilla. Der Bandiltiss. So. #540 Ictoryx zorilla, q. v.
- #540 Ictonyx [or Zorilla o] striata s (Shaw, 1800, Gen. Zool., Mamm., v. 1 (2), 387 [Viverra 1]) Layard, 1861, Cat. Mamm. S. Afr. Mus., 28 [nv]. The Striped Muishond, Stink or Getrepte Muishond, Iqaqa. C. and S. Africa from Benguela, Uganda, and Mozambique southward. So. #540 Ictonyx zorilla.

Ozolictis · Gloger, 1842, Hand.·u. Hilfs. Naturg., v. 1, pp. xxix, 74-75, new name for Ictonyx;

Rabdogale ° Poinel, 1854, Cat. méth. Vert. Foss. Bassin de la Loire, Paris, 47;

Rhabdogale Wiegmann, 1838, Arch. Naturg., v. 1, 278-279, footnote, based on "Die Zorillen

ti Syns.: Ictidonyx co Agassiz, 1846a, Nomenelator Zool., Index Univ., 194;

Zorilla · Oken, 1816, Lehrb. Naturg., 3 Th., Zool., 2 Abth., pp. xi, 1000, tsd. (1904) zorilla Erxl.; tsd. (1900) striata.

#540 [Ictonyx] vaillantii Loche, 1856, Rev. Mag. Zool., 497, pl. 22 [Zorilla o]. Algeria t, Africa. So. #540 Ictonyx lybica, fide Trouess., 1897c, 258.

Trichodectes †1100.—Ext. zorillae.—Tunisia.

#540 Ictonyx [or Mephitis 1, Mustela 1, Rhabdogale, Zorilla o] (Viverra 1, Zorilla o) zorilla (Schreb., 1777, Säugth., v. 3, 445, pl. 123 (1776) [Viverra 1]) Grevé, 1894, Nova Acta Acad. Leop., Halle, 154. Cape Polecat, Bandiltis, Zorilla, Zorrilla. Africa.

Plasmodium †170.—Blood.

roubaudi.—Senegal t.—T. h.

Ancylostoma †387.—Intest.

mephitis h Micheletti, 1929.—Africa t.—T. h.

Filaria †435, †449.

martis.—Subcutaneous.—Transvaal. rhabdogalis.—Larva in peritoneum.— Egypt.

Physaloptera †469.

species Monnig, 1924.—Transvaal, S. Africa.

Seuratum <459t.—Intest. tacapense.

Haemaphysalis †869.—Ext.

†leachi.—Orange Free State; Rhodesia.

Ctenocephalides †1639.—Ext.

connatus.—Cape Colony.

Echidnophaga †1633.—Ext. bradyta.—Cape Colony.

Trichodectes †1100.—Ext.

ovalis.—S. W. Africa. Xenopsylla †1636.—Ext.

Xenopsylla †1636.—Ext erilli.—Cape Colony.

#541 (540). Poecilogale Thomas, 1883, Ann. Mag. Nat. Hist., 5th ser., v. 11, 370, mt. albinucha Gray, 1864.—Teeth 28 (rarely 30) (i. 3/3, c. 1/1, pm. 2/2, m. 1/1 (rarely 1/2)). Form weasel-like, very short on the legs as compared with the length of body; coloration similar to *Ictonyx*. Snout somewhat rounded; auditory bulla flattened, so that it is hardly noticeable, opening of the meatus directed anteriorly. South Africa.

#541 Poecilogale [Ictonyx ', Mustela '] (Poccilogale) albinucha (Gray, 1864, Proc. Zool. Soc. London, no. 5, 69, pl. 10 [Zorilla ']) Trouess., 1897c, Cat. Mamm., v. 1, 259. Small striped pole cat of southern Africa, snake Muishond, snake Weasel, Slang Muishond (snake weasel). Central and southeast Africa, from Angola, Nyassaland, and German E. Africa to Natal and the eastern part of the Colony.

Trichodectes †1100.—Ext. ovalis.—Onderstepoort ^t, Transvaal.—T. h.

#542 (536). Teeth not sectorial; upper carnassial enormous, with very large bicuspid talon; molar a little smaller than carnassial, triangular, its inner and anterior borders subequal as in MELINAE; lower carnassial with large cuspidate heel and large metaconid; occipital crest rising nearly vertically from mastoid, and nearly semicircular from posterior aspect. See #543.

#543. TAXIDIINAE Pocock, 1922, Proc. Zool. Soc. London, pt. 4, no. 55, Jan., 835.—American Badgers. Feet broad and fossorial with long claws as in MELLIVORINAE, but plantar pads narrower; a single small carpal pad remote from plantar pad; no metatarsal pad. No glandular pouch associated with anus. Ear with pinna well developed. See #544.

#544. Taxidea Waterhouse, 1838, Proc. Zool. Soc. London, pt. 6 (71), 154, mt. labradoria Gmel. in Linn., 1788 so. (tsd. 1912; 1924) taxus Schreb., 1777.— American badgers. Teeth as in Meles, except that the rudimentary anterior premolar appears to be always wanting in the upper jaw; upper carnassial much larger in proportion to the other teeth; upper molar about same size as carnassial, triangular, with apex turned backward; talon of lower carnas-

sial less than half as long as tooth; skull very wide in the occipital region; lambdoidal crest very greatly developed, and the sagittal but slightly, contrary to what obtains in *Meles*. Body very stoutly built and depressed. Tail short. North America. Syn. Taxidia ^m Hodgson, 1847, J. Asiatic Soc. Bengal, v. 16, 763.

#544 *Taxidea americana (Boddaert, 1784, Elench. Anim., v. 1, 80 [Meles¹ taxus]) Grevé, 1894, Nova Acta Acad. Leop., Halle, 157. Common American badger, Blaireau d'Amérique, amerikanischer Dachs. Hudson Bay¹; U. S. A. from Wisconsin, Illinois, Iowa to Pacific Ocean. So. #544 Taxidea taxus, q. v., fide Rhoads, 1894, 524.

#544 Taxidea ^t [or Meles ^l] labradoria (Gmel. in Linn., 1788, Syst. Nat., v. 1, 102 [Ursus ^l]) Waterhouse, 1838, Proc. Zool. Soc. London, pt. 6, no. 71, 154. So. #544 Taxidea ^t taxus.

#544 Taxidea [or Taxus] labradorica (Link, 1795, Beytr. Nat., v. 1 (2), 86 [Meles])
Lesson, 1842, N. Tab. Règne Anim., Nov., 79. Amerikanischer Daehs. So. #544 Taxidea labradoria, q. v.

#544 Taxidea ¹ leucurus Hodgson, 1847, Proc. Zool. Soc. London, pt. 15 (177), Nov. 10, 116. So. #528 Meles leucurus, q. v.

#544 Taxidea species. American badger. Probably chiefly or entirely Taxidea taxus.

Trichinella †366. †*spiralis. Dermacentor †873.—Ext. †*variabilis. †*venustus d.—Cf. † a ndersoni. Ixodes †866.—Ext.
*hexagonus inchoatus.

#544 **Taxidea** [or Meles ¹, Melus ¹] **taxus** (Schreber, 1777, Säugthiere, v. 3, 520, pl. 142B (1778) [Ursus ¹]) Rhoads, 1894, Amer. Nat., v. 28 (330), June, 524: American badger. Labrador ^t and Hudson Bay ^t. Several subspecies. Cf. also #528 Meles taxus ^d for confusion.

Taenia | < †299.

*species Stiles & Hassall, 1894e.—Colorado.

Monopetalonema < †440.

*eremita.—Muscle.—Wyoming.

Physaloptera †469.

papillo truncata.

turgida.—Stom.—Phila. Zoo.

torquata.

Dermacentor †873.—Ext.

†*andersoni.

†*variabilis.

†*venustus d.—So. †andersoni.

Ixodes †866.—Ext. *kingi.—T. h.

Pulex †1635.—Ext.

†irritans.—Calif. 1—Nat. Inst. Health No. 12315.

Trichodectes †1100.—Ext. *interrupto-fasciatus.—Calif.

#545 (535). Tympanic annulus confluent at its summit with roof of bulla; posterior rafter-like partition of bulla close down upon petrous, leaving narrow passage between the 2 chambers, the posterior of which is markedly multilocular; bullae remote from glenoid in front. See #546.

#546 (546a 59). Grisoninae Pocock, 1922, Proc. Zool. Soc., London, pt. 4, no. 55, January, 835.—Pinna of ear well developed, with bursa present, but small and in front of posterior margin. No subcaudal pouch. Teeth as in mustelinae, but talon of upper carnassial much larger, occupying nearly half the inner surface of the tooth; palatine foramina maxillary. Feet not fossorial, almost as in TAYRINAE, but with carpal pads farther from plantar pad. See #547.

#547. Grison 60 Oken, 1816, Lehrb. Naturg., Zool., Th. 3, Abt. 2, pp. xi, 1000, mt. Viverra 1 vittata Schreb.; or Galictis 60.—Grisons. Teeth 34 (i. 3/3, e. 1/1, pm. 3/3, m. 1/2); molars small but stout; upper carnassial with inner tubercle near middle border of tooth; lower carnassial with talon small, and inner eusp small or absent. Body long. Legs short; claws non-retractile; palms and soles naked. Head broad and depressed. Tail of moderate length. South America.

#547 **Grison** [or Galera] (Galictis °) **aliamandi** (Bell, 1837, Proc. Zool. Soc. London, pt. 5 (52), Dec., 47 [Galictis °]) Elliot, 1904, Land & Sea Mamm., Chicago, Zool. ser., v. 4 (2), 526. Allamand's Grison. South America.

Microfilaria †432.—Blood.

[species Plimmer, 1917.—London Zoo, from Argentina.]

#547 Galictis · barbara Linn., 1758a, 46. So. #525 Tayra barbara, q. v.

#547 [Grison] Galictis • (Galictis •) quiqui • (Molina, 1782, Sagg. stor. nat. Chili, 292 [Mustela 1]) Trouess., 1897c, Cat. Mamm., v. 1, 264. So. #547 Grison vittata, fide Trouess., 1897c, 264.

Neotrichodectes < †1099.—Ext.

[mephitidis * Osborn.]

#547 Grison [or Galictis o] species.

Taenia + †325.

macrocystis.—Brazil; Paraguay.

#547 **Grison** [or *Galictis* °, *Grisonia*, Gulo ¹, Lutra ¹] (*Galictis* °) **vittata** (Schreber, 1777, Säugth., v. 3, 447, pl. 124 (1776) [Viverra ¹]) Ihering, 1911, S. Paulo Rev. Mus. Paulista, v. 8, 244. Grison, Furão. S. America.

Dioctophyme †426.

†gigas s.

†renale.—Eggs in urine.—Rio de Janeiro.

Amblyomma †881.—Ext.

tovale.

Rhopalopsyllus †1635A.—Ext.

lutzi · lutzi.—São Paulo ·, Brazil.— T. h.

#548 (530). Palate not produced posteriorly, mesopterygoid fossa reaches almost up to line of upper molar teeth. Baculum unossified or ossified as an exceedingly slender undifferentiated rod. See #549.

Grisonia · Gray, 1825, Ann. Phil., n. s., v. 10, Nov., 339 [nonien nudum]; Gray, 1843, List Spec. Mamm. Coll. Brit. Mus., pp. xx, 68, mt. vittata Sehreb.

^{59 #546}a (546). LYNCODONTINAE Poeoek, 1922, Proe. Zool. Soc. London, pt. 4, no. 55, January, \$36.—Ear greatly reduced, no trace of bursa or of valvular supratragus. Differing from GRISONINAE in eranial and in external characters. Bullae inflated, not flattened externally toward auditory orifice, with anterior edge obliquely transverse, not emarginate; mesopterygoid fossa longer; pm. 2 lost above and below. Feet with long fossorial claws, unique in the family; digits webbed only for a short distance beyond plantar pads; hairy laterally, mesially naked below, like the reduced webs; earpal pads reduced to external moiety which is in contact with plantar pad, the rest of earpal area covered with hair, which encroaches over the middle of plantar pad; metatarsal pads absent; plantar pad of hind foot reduced like that of fore foot. Upper lip completely grooved. Contains Lyncodon.

⁶⁰ Syns.: Galictis • Bell, 1826, Zool. J., v. 2, 551-552, tod. Viverra I vittata Sehreb.; Gallietis III Waterhouse, 1839, Zool. Voy. H. M. S. Beagle, London, pt. 2, Mamm., 21;

- #549. MEPHITINAE Gill, 1872a, 6, 66.—Skunks. Cavity of bulla simple, ceasing close behind petrous, communicating with large periotic hollow by means of small circumscribed orifice set forward in line with outer end of petrous and in front of stylomastoid foramen, which is set far in and narrowly separated from foramen lacerum posticum; bulla not nearly extending to paroccipital, but encroaching on glenoid in front; muzzle massive, but zygomata and postorbital processes weak; teeth resemble those of MELINAE and MYDAINAE, but upper incisive row nearly straight, upper molar not twice size of the carnassial and wider than long; pm.1 lost above and below; palatine foramina maxillary. Feet fossorial, soles naked, 2 carpal pads, and metatarsal pad; pads of third and fourth digits of hind foot basally united. Ear with orifice not concealed behind tragal ridge. Anus without pouches. See #550.
- #550 (551). Conepatus of Gray, 1837, Charlesworth's Mag. Nat. Hist., v. 1, n. s., 581, type humboldtii Gray.—Bare-nosed skunks of S. Amer., South American skunks, white-backed skunks. Teeth 32 (i. 3/3, c. 1/1, pm. 2/3, m. 1/2). Body stouter than that of Mephitis. Nostrils opening downward and forward, not laterally; first premolar absent; pterygoid fossa short and rather narrow; palate extends beyond posterior border of molar; postorbital processes generally absent; superior outline of skull a gradual curve from occiput to end of premaxillae; fore claws large and strong; soles naked for half the length of foot. South America (Magellan Straits t). See #550A.
- #550A (550B). Oryctogale Merriam, 1902, Proc. Biol. Soc. Wash., v. 15, Aug. 6, 161-162, tod. Conepatus leuconotus Licht., from Vera Cruz, Mexico.—Color black, with single broad white mid-dorsal band, beginning on top of head between ears (or midway between eyes and ears) and reaching caudad to tail.
- #550B (550A). Marputius Gray, 1837, Charlesworth's Mag. Nat. Hist., v. 1, n. s., 581, mt. Mephitis ¹ chilensis Geoffr.—Color black, back with two rather narrow parallel white stripes. Syn. Marputias ° Ham. Smith, 1842, Jardine's Nat. Lib., v. 15, Mamm., 197.
- #550 Conepatus [or Conipates m] (Marputius) arequipae Thomas, 1900, Ann. Mag. Nat. Hist., Ser. 7, v. 6, 466. Sumbay t, Province of Arequipa, Peru.
- Hectopsylla <\pi1630.—Ext.
 coniger.—Pampa Olliga t,
 Bolivia.—T. h.

Pulex †1635.—Ext. †irritans.—Pampa Olliga, Bolivia.

#550 Conepatus chorensis Thomas, 1902, Ann. Mag. Nat. Hist., ser. 7, v. 9, Feb., 126. Choro t, Bolivia. Syn. Conipates the churensis to 1908.

Pulex †1635.—Ext. †irritans.—Choro, Bolivia.

#550 Conepatus ^t [or Mephitis ^l] (Conepatus) humboldtii Gray, 1837, Charlesworth's Mag. Nat. Hist., n. s., v. 1, Nov., 581. Straits of Magellan ^t; Patagonia.

Hectopsylla < †1630.—Ext. broscus.—Pampa Central ^t, Argentina.—T. h.

Gonepatus m Ihering, 1911, Rev. Mus. Paulista, v. 8, May 10, 252;

Rhinozolis Gloger, 1842, Hand-u. Hilfsbuch Naturg., v. 1, 58, Marpurito's, Conepatl's or Rüsselstinkthiere (Thiosmus Licht., 1838, renamed);

Thiosmus Lichtenstein, 1838, Abhandl. K. Akad. Wiss., Berlin, 270.

⁶¹ Syns.: Conipates m 1908;

#550 Conepatus (Conepatus) proteus Thomas, 1902, Ann. Mag. Nat. Hist., ser. 7, v. 9, 239. Cruz del Eje ^t, Central Cordova.

Diphyllobothrium †295. species Vevers, 1920.—London Zoo, from Argentina. Ancylostoma †387.—Intest. conepati.

#550 Conepatus [or Gullo], Mephitis], Thiosmus] (Conepatus) suffocans (Illiger, 1815, Abh. ph.-Kl. K. pr. Ak. Wiss. (1804–1811), 109, 121 [Gulo]) Trouess., 1897c, Cat. Mamm., Ber., v. 1, 261. South American skunk, südamerikanisches Stinkthier, Surilho, Yaguare, Zorilho Jaritataca. Brazil.

Ancylostoma †387.—Intest.
conepati.—Buenos Aires.
[mephites.—Buenos Aires.]

Physaloptera †469.
maxillaris.—Stom.—Buenos

maxillaris.—Stom.—Buenos Aires.
mephites.—Buenos Aires.

Prosthenorchis †501p.
elegans.—Intest.
Pulex †1635.—Ext.
conepati.—Piauhy t, Brazil.—T. h.

#551 (550). Teeth 34: i. 3/3, c. 1/1, pm. 3/3, m. 1/2. See #552.

#552 (553). *Mephitis Geoffr. & Cuv., 1795, Mag. encycl., v. 2, 187 (for mouffette), tsd. (1901) "Les Moufettes" (cf. mephitis), tsd. (1904; 1912; 1924) mephitis Schreb.—True skunks, moufette, Stinkthier. Skull highly arched, highest in frontal region; rostrum truncated with slight obliquity; posterior margin of palate nearly on a line with posterior border of last molars; periotic region not inflated; mastoid and paroccipital processes prominent; postorbital processes not prominent; coronoid process of mandible conical, erect. Teeth 34 (i. 3/3, c. 1/1, pm. 3/3, m. 1/2); snout not greatly produced; nostrils lateral. Tail long and bushy. Heavy, thickset animals, slow of movement, terrestrial, burrowing. North America. See #552A. Syns.: Chincha Lesson, 1842, Nouv. Tab. Règne Anim., Mamm., 67, mt. tat. chincha Lesson, so. americana Desm., so. mephitis Erxl.; Mephites Gray, 1847, List Osteol. Spec. Brit. Mus., pp. x, 20. See #552A.

#552A (552B). *Mephitis: Geoffr. & Cuv., 1795, Mag. encycl., v. 2, 187 (for mouffette), tsd. (1901) "Les Moufettes" (cf. mephitis), tsd. (1904; 1912; 1924) mephitis Sehreb.—Large striped skunks. Audital bullae not greatly inflated. Back usually with a white stripe, divided posteriorly. Skull long and relatively narrow interorbitally; zygomata usually spreading broadly; interpterygoid fossa broad; palate ends either squarely or with a median notch or spine; anterior palatine foramina usually small and narrow; mastoids, and sagittal and supraorbital crests well developed. Size medium to large; build heavy. Soles broad; ears not prominent. Fur dense. Usual color pattern: A narrow median white stripe extends from nose to nape; a white dorsal band beginning with a broad nuchal patch, and narrowing between the shoulders, divides into 2 lateral stripes, which continue to the tail and sometimes down its sides; the rest of the body is black; tail with mixed black and white hairs, the white ones much the longer; all the tail hairs are white at the base. Syn. Subgenus Chincha & Lesson of Howell, 1901, North Amer. Fauna, No. 20, Aug. 31, 20, 22, tat. chincha so. americana so. mephitis.

#552B (552A). Leucomitra Howell, 1901, North Amer. Fauna, no. 20, Aug. 31, 20, 39, mt. tod. Chincha macroura Licht., from mountains northwest of City of Mexico.—Hooded skunks. Audital bullae large, greatly inflated. Back usually wholly black or wholly white. Skull short and broad; interpterygoid fossa narrowly U-shaped; palate without notch or spine; anterior palatine foramina large and rounded; tube of auditory meatus short; periotic

region slightly inflated; mastoid processes and sagittal crest never greatly developed; zygomata never spreading abruptly, and often nearly parallel to axis of skull; interorbital constriction not marked; paroccipital processes directed outward and not sharply pointed; posterior margin of coronoid distinctly concave. Size medium to small; build much slenderer than that of Mephitis. Feet slender. Tail very long. Ears prominent. Fur long and silky but not dense; hairs on the nape clongated and spreading sidewise, forming a sort of hood. Upper parts chiefly white, under parts black; or upper parts nearly all black, with narrow lateral stripes, and under surface of tail white; between these two extremes are many intermediate phases. Frontal stripe narrow and often absent.

552 Mephitis [or Chincha t, Mustela l] (Mephitis) americana h Desmarest, 1818, Nouv. Diet. Hist. nat., Paris, v. 21, 514. So. #552 Mephitis mephitis,

fide Howell, 1901, 15.

#552 Mephitis cinche (Mueller in Linn., 1776, Natursyst., Suppl., 32 [Viverra 1]). Chinga. S. America t. Not positively identifiable, fide Howell, 1901, 15. Syns.: chinche o 1777; chinga 1808; chingha 1815; chincha 1827.

 $\begin{tabular}{ll} Taenia 1 &< $\dagger 299.$ \\ & crassipora. $-$Small intest. \\ Ascaris 1 $\dagger 479.$ \\ & alienata h $^s.$ \\ & *columnaris. $-$Intest. $-$$

United States.

Physaloptera †469.

maxillaris.—Stom.—Brazil.

- #552 Mephitis chinga ° Tiedem., 1808, Zool., v. 1, 362. So. #552 Mephitis cinche, q. v.
- #552 *Mephitis (Mephitis, Chincha) hudsonica (Riehardson, 1829, Fauna Borea.-Amer., pt. 1, 55 [Mephitis americana]) Bangs, 1895, Proc. Boston Soc. Nat. Hist., v. 26, 536. Hudson's Bay Skunk, Northern Plains Skunk. Saskatehewan t, Canada; western Canada from Manitoba to Brit. Columbia (east of Cascades); south in United States to Colorado, Nebraska, and Minnesota.

Dermacentor †873.—Ext.

†*andersoni.

#552 Mephitis [or Mephites o] (Leucomitra o) macroura Lichtenstein, 1832–1834, Darst. n. wenig bekannter Säugethiere, pt. 9, pl. 46. Hooded Skunk, Long-tailed skunk, langsehwänziges Stinkthier. Mountains northwest of City of Mexico o; highlands of central and southern Mexico; south to Guatemala. Syn. M. macrurus o True, 1885, Proc. U. S. Nat. Mus., v. 7, 609.

Neotrichodectes < †1099.—Ext.

[*mephitidis * Osborn.—Ariz.]

#552 Mephitis memphitis (Linn., 1758a, 44 [Viverra 1]). Undeterminable, fide Howell, 1901, North Amer. Fauna, no. 20, 17.

#552 Mephitis mephitica o (Shaw, 1792, Mus. Leveriani, London, 171 [Viverra 1], mephitis renamed) Flower & Lydekker, 1891a, Introduc. Mamm., London, 572. Common skunk. North America. So. #552 Mephitis (Mephitis) niephitis, q. v.

#552 *Mephitis [or Mustela] (Mephitis, Chincha) mephitis (Sehreber, 1776, Säugthiere, v. 3, 444, pl. 121 [Viverra]; Erxl., 1777, Syst. Anim., 491 [Viverra]) Allen and others, 1902, Scienee, n. s., v. 16 (394), July, 115. Canada skunk. Eastern Canada ; Nova Seotia, Quebee, and northern Ontario; west and north at least to Oxford House, Keewatin.

Eimeria †163.

*mephitidis.—Intest.—N. America t from Ohio.—T. h.

*species Andrews, 1927.—Sec E. mephitidis.

Taenia $^{1} < ^{\dagger}299$.

*species Stiles & Hassall, 1894e.— Colorado.

Ascaris †479.—Intest.

*alienata h s.—Carlisle, Pa.

*columnaris.—Phila. Zoo.

dasypodina.

*species Stiles & Hassall, 1894e.—

Physaloptera †469.

maxillaris.—England (from Canada).

Strongyloides †355.

†longus *.—Intest.

Trichochelix †411P.

tuberculata.

Ixodes †866.—Ext.

†cookei.

Porocephalus †798.—Encysted.

[*subcylindricum *.—Florida.]

Neotrichodectes <†1099.—Ext.

[*mephitidis * Osborn.—Nebr.]

*mephitidis Packard.

#552 *Mephitis [or Chincha] (Mephitis, Chincha) mesomelas Lichtenstein, 1832–1834, Darstellung n. wenig bekannter Säugethiere, pt. 9, pl. 46. Louisiana skunk, zierliches Stinkthier. Louisiana t. Several subspecies.

Ascaris 1 †479.

columnaris.—Phila. Zoo.—Intest.

EUNEMATODA †330.

[*species.—Stomach.—Wichita Mts.]

#552 *Mephitis (Mephitis) mesomelas mesomelas (Lichtenstein, 1832–1834, Darst. n. wenig Säugethiere, pt. 9, pl. 46) Miller, 1912, U. S. Nat. Mus., Bul. 79, 108. Louisiana t; west side of Mississippi Valley from southern Louisiana to Missouri; westward along coast of Texas to Matagorda Island; up Red River Valley as far at least as Wichita Falls.

#552 *Mephitis (Mephitis) minnesotae Brass, 1911, Aus dem Reiche der Pelze,

Apr., 532 [nv]. Forested region of Minnesota t.

Mesocestoides <†299.—Intest.

*latus.—Bemidji ^t, Minnesota.—T. h.

#552 *Mephitis (Mephitis) nigra (Peale & Beauvois, 1796, Cat. Peale's Mus., Phila., 37 [Viverra 1]) Hollister, 1914, Proc. Biol. Soc., Wash., v. 27, Oct. 31 215. Maryland 1; New England and Middle Atlantic States; south to Virginia; west to Indiana.

#552 *Mephitis (Mephitis, Chincha) occidentalis Baird, 1857, N. Amer Mamm., 194-195. California skunk. Petaluma t, Sonoma Co., California;

N. Amer. Several subspecies.

Ixodes †866.—Ext.

†*hexagonus.—San Francisco.

†*hexagonus cookei.—San Francisco.

Ceratophyllus †1627.-Ext.

†*fasciatus.—San Francisco, Calif.—Nat. Inst. Health No. 11471. Neohaematopinus <†1108.—Ext.

*pacificus.—California.

Neotrichodectes \leq †1099.—Ext.

[*mephitidis * Osborn.—Calif.]

Pulex †1635.—Ext.

†irritans.—Nat. Inst. Health No. 12311.

#552 *Mephitis (Mephitis) occidentalis occidentalis (Baird, 1857, N. Amer. Mannn., 194-195) Miller, 1912, U. S. Nat. Mus., Bul. 79, 109. Petaluma t, Sonoma Co., Calif.; northern and central Calif., from vicinity of Monterey Bay northward, west of the Sierra and Cascades, to Willamette Valley, Oregon.

Mesocestoides < †299.—Intest.

variabilis maior.—Mendocino Co.t, California.—T. h.

#552 *Mephitis (Mephitis, Chincha) occidentalis spissigrada (Bangs, 1898, Proc. Biol. Soc. Wash., v. 12, Mar. 24, 31) Allen, 1901, Bul. Amer. Mus. Nat. Hist., v. 14, 334. Puget Sound Skunk. Sumas t, Brit. Columbia, Canada; shores of Puget Sound and coast region of Washington State and northern Oregon.

Ceratophyllus †1627.—Ext. †acamantis.—Brit. Columbia.

#552 Mephitis ohinche m for chinche.

#552 Mephitis species.

Asearis 1 †479.

columnaris.

dasypodina.

mephitidis.—Intest.—T. h.

Filaroides \leq †440.—Lungs.

mustelarum¹s.

Skrjabingylus < †418.—Frontal bones. [mustelarum 1.]

Amblyomma †881.—Ext.

†americanum.

Dermacentor †873.—Ext.

†*variabilis.—East half of United States.

Ixodes †866.—Ext.

kingi i.

Anomiopsyllus < †1634.—Ext.

*nudatus.—Paradise, Ariz.

Ceratophyllus †1627.—Ext.

*eumolpi cyrturus.—Paradise t, Ariz.—T. h.

*pansus.—Paradise t, Ariz.

*sibynus.—Paradise t, Ariz.—T. h.

Heetopsylla < †1630.--Ext.

stomis.—Canada Mariano , Argentina.

Neotriehodeetes < †1099.—Ext.

*mephitidis Packard.—Wyoming t.— T. h.

Oropsylla < †1626.—Ext.

[†acutus *.—Nat. Inst. Health No. 12773.]

Paraeeras < †1626.—Ext.

javanicus.—Gede ^t, Java.—Skunk t. h.

Phalaeropsylla < †1623.—Ext.

*paradisea.—Ariz.

Pulex †1635.—Ext.

†irritans.—Nat. Inst. Health No. 12775.

Rhopalopsyllus †1635A.—Ext.

rimatus.—Argentina.

Trichodeetes †1100.—Ext.

interrupto-fasciatus.—Bolivia.— Skunk.

#552 Mephitis spissigrada Bangs, 1898, Proc. Biol. Soc. Wash., v. 12, Mar. 24, 31. So. #552 Mephitis (Mephitis) occidentalis spissigrada, q. v.

#552 Mephitis ¹ suffocaus (Illiger, 1815, Abh. ph.-Kl. K. pr. Ak. Wiss. 1804–1811, 109, 121 [Gulo ¹]) Lichtenstein [1832–1834], Darst. Säugth., pt. 9, pl. 48. So. #550 Conepatus suffocaus, q. v.

#553 (552). *Spilogale Gray, 1865, Proc. Zool. Soc. London, no. 8, 150, mt. interrupta Raf., 1820.—Little spotted skunk, little striped skunk. Skull flattened, rostrum only slightly depressed below plane of upper surface; periotic region and audital bullae greatly inflated; mastoid and paroceipital processes obsolete or very small; postorbital processes well developed; "step" in lower jaw not pronounced (sometimes lacking); tube of auditory meatus directed forward; zygomata highly arched, with highest point at middle of arch; antero-posterior diameter of upper molar less than transverse diameter; teeth 34 (i. 3/3, e. 1/1, pm. 3/3, m. 1/2). Slender and weasel-like in form, active, agile, somewhat arboreal, often making their homes in hollows of trees or erevices in cliffs. North American arboreal skunks.

#553 *Spilogale ¹ interrupta (Rafinesque, 1820, Annals Nature, London, v. 1, 3 [Mephitis ¹]) Merriam, 1890, North Amer. Fauna, no. 4, Oct. 8, 8. Little striped skunk, white spotted skunk. Louisiana ¹; Iowa, southern Minnesota

Nebraska, Kansas, Missouri, and Oklahoma; south in eastern Texas to about the middle of the State.

Neotrichodectes < †1099.—Ext. [*mephitidis * Osborn.—Iowa.]

#553 Spilogale [phenax] latifrons Merriam, 1890, N. Amer. Fanna, no. 4, Oct. 8, 15. So. #553 Spilogale phenax latifrons, q. v.

#553 *Spilogale phenax Merriam, 1890, N. Amer. Fauna, no. 4, Oct. 8, 13. Cheating spotted skunk. Nicasio ^t, Marin Co., Calif. Two subspecies.

Anomiopsyllus < †1634.—Ext.

*californicus.—Claremont t, Calif.—T. h.

*falsicalifornicus.—Los Angeles t, Calif.

Neotrichodectes < †1099.—Ext.

[*mcphitidis * Osborn.—Calif.]

#553 *Spilogale phenax latifrons Merriam, 1890, N. Amer. Fauna, no. 4, Oct. 8, 15. Broad-Headed Spotted Skunk. Roseburg, Douglas Co., Oregon t; northern California; Brit. Columbia.

Ceratophyllus †1627.—Ext.

nepos nepos.—Chilliwack t, Brit. Columbia.—T. h.

#553 *Spilogale phenax phenax (Merriam, 1890, N. Amer. Fauna, no. 4, Oct. 8, 13) Miller, 1912, U. S. Nat. Mus., Bul. 79, 106. Nicasio, Marin Co., California ^t; greater portion of California, excepting extreme northern part and southeastern desert regions.

Mesocestoides < †299.—Intest. *variabilis.—Mendocino Co., California.

#553 Spilogale species.

Megarthroglossus < †1634.—Ext.

procus.—Chilliwaek ^t, Brit. Columbia.—T. h.—Probably refers to Spilogale phenax latifrons.

#554 (490). Alisphenoid canal present; true molars 2-2 in upper jaw. See #555. #555 (571). Feet comparatively long and slender, digits unequal, pads arranged in a strongly curved line round the comparatively narrow plantar pad. Tail at least long enough to reach the ground. M.3 of mandible suppressed; carotid foramen on inner side of bulla well in advance of foramen lacerum posticum. See #556.

#556 (569). PROCYONIDAE Bonaparte, 1850, Conspectus Syst. Mastozoöl., etc.—Raccoons, coatimundis, etc. Penis long, prepuce abdominal, remote from scrotum. Digital and plantar pads normally developed and quite naked; carpal pad or pads also well developed and close to plantar pad; toes 5 on each foot. No glandular area around anus. Pm.2 and pm.3 of maxilla comparatively small and 1- or 2-rooted (exceptionally in Procyon, pm.3 is 3-rooted); pm.3 unlike pm.4, at most with 1 main cusp and 3 minute cusps; alisphenoid canal absent; foramen rotundum of normal size, well separated from the forlac. ant., and not sunk in a common pit with it; foramen ovale rounded. Anterior edge of coronoid inclined backward. America. See #557.

#557 (567). Mandible slender, the rami separable and with normal symphysis, lower edge arched and inclining upward without expansion toward angular process, which is well developed and close beneath the condyle; inner dentary foramen about midway between the condyle and the anterior margin of the coronoid; palate with arcuate sides, wider behind than in front, not depressed behind molars; paroccipitals and mastoids arising close to the bullae, which

- have the carotid foramen about equally distant from for. lac. med. and for. lac. post., or nearer the latter; molars enspidate when newly cut; pm.1 present. Tail not prehensile. No ventral glands. Anal glands retained in Bassariscus, Procyon and Nasua, unrecorded in Bassaricyon. See #558.
- #558 (565). Mesopterygoid fossa short, separated from molars by a long posterior palate; molars with subequal conical comparatively blunt cusps; canines grooved, mutually sharpened. Bursa absent or reduced, its anterior flap at most very low and not excised. Metatarsus naked beneath. See #559.
- #559 (562). Muzzle short, not compressed above; preorbital foramen close to anterior rim of orbit, which is above pm.3 or pm.4; inferior edge of anterior nares normally formed; canines only moderately sharp in front; posterior root of zygoma not abnormally expanded; typically no supplementary foramen on inner side of bulla between carotid and foramen lacerum posticum; upper edge of rhinarium not produced, its anterior surface convex, with normal nostrils and wide septum. Sec #560.
- #560 (560a 62). PROCYONINAE Gill, 1872a, 6, 67.—Raccoons. Mastoid large, larger than paroeeipital and projecting far beyond auditory orifice; earotid foramen behind middle of bulla; foramen ovale not behind tip of hamular; ridges invading lower surface of posterior palate. Claws longer, blunter, and less curved; digits entirely free from webbing. Snout produced, upper lip undivided, no philtrum. Two normal anal glands. Bursa absent. See #561.
- #561. *Procyon 63 Storr, 1780, Prodr. Meth. Mamm., 35-36, tab. A, tsd. (1891; 1904; 1912; 1915; 1924) Ursus 1 lotor Linn.—Raccoons, raton, raton laveur, Waschbär. Teeth 40; molars broad and tuberculated; upper carnassial with 3 cusps along the outer margin, and a very broad bieuspid inner tubercle, giving an almost quadrate form to the crown; lower carnassial with an extremely small and ill-defined blade, placed transversely in front, and a large inner cusp and hind talon; first molar with a large tuberculated crown, rather broader than long; second molar as long as first, but narrower behind, with 5 obtuse cusps. Body stout. Head broad behind, but with pointed muzzle. Feet plantigrade, but in walking the entire sole is not applied to the ground as it is when the animal is standing; toes, especially of the fore foot, very free, and capable of being spread wide apart; claws compressed, curved, pointed, and nonretractile. Tail moderately long, cylindrical, thickly covered with hair, annulated, nonprehensile. Fur long, thick, soft. Alaska to Central America.
- #561 **Procyon** [or Urva¹] (Euprocyon⁸) **cancrivora** (Cuv., 1798, Tabl. Élément., Paris, 113 [Ursus¹]) Illiger, 1815, Abh. ph.–Kl. K. pr. Ak. Wiss. (1804–1811), 109. Crab-eating raccoon, Aguara, Guassini, Krabbenwaschbär, Krebsfresser. Cayenne, French Guiana ^t; ranges north to Central America.

⁶² #**560**² (560). BASSARICYONINAE Poeoek, 1921, Proc. Zool. Soc. London, 422.—Mastoid small, not bigger than paroecipital and hardly surpassing auditory orifice; carotid foramen not behind middle of bulla; foramen ovale well behind tip of hamular; ridges of posterior palate marginal. Claws short, sharp, much curved; digits webbed for two-thirds of their length. Snout not produced; upper lip divided by wide philtrum. Bursa retained and marginal. Contains Bassaricyon.

Syns.: Campsiurus o Link, 1795, Beytr. Nat., v. 1 (2), 52, 87, tsd. (1916) 1st sp. lotor Linn.; Euprocyon o Gray, 1864, Proc. Zool. Soc. London, no. 45, 705-706, int. cancrivora Cuv.; Loter o Oken, 1816, Lehrb. Naturg., 3 th., 2 Abth., 1080; Lotor Geoffr. & Cuv., 1795, Mag. encycl., v. 2 (6), 187, tat. lotor; Prochyon o Swainson, 1835, Nat. Hist. Class. Quadr., 364.

Physaloptera †469.

maxillaris.

Uncinaria 390B.—Intest.

bidens.—Cecum.—Ypanema.

[forceps ursi-lotor d p.—Brazil t.—T. h.]

maxillaris.—Intest.—Ypanema.—So. ?criniformis.

Porocephalus †798.—Encysted.

†crotali.—Larva.

[subcylindricum *.—Larva.—Liver, diaphragm.]

- #561 Procyon hernandezii Wagler, 1831, Oken's Isis, v. 24, 514. So. #561 Procyon lotor hernandezii, q. v.
- #561 **Procyon** hudsonica Brass, 1911, Aus dem Reich der Pelze, Apr., 564 [nv]. Hudson Bay Region. So. #561 **Procyon lotor lotor**, fide Miller, 1924a, 108.
- #561 *Procyon [or Meles 1] (Procyon) Iotor (Linn., 1758a, 48 [Ursus 1]) Illiger, 1811, Prodr. syst. Mamm., 129. Raccoon, Schupp, Waschbär. Eastern United States 1. Several subspecies.

Babesia †173.—Blood.

species Wenyon & Scott, 1926.— London Zoo from N. Amer.

Trypanosoma †94.—Blood.

hippicum.—Exp.

Nanophyetus <†271.

*salmincola.—Exp.

Diphyllobothrium †295.—Intest. †latum.

Dioctophyme †426.

†gigas s.

Filaria †435.

insignis.—Connective tissue, foot.

Trichinella †366.—Muscles.

†*spiralis.

Uncinaria 390B.—Intest.

*lotoris.—-Prince Georges Co.t, Md.

Macracanthorhynchus †508.

thirudinaceus.

Prosthenorchis 1501p.

ingens.—Intest.—"Madagascar." spirula.—"Africa"; Brazil; "Madagascar." Dermacentor †873.—Ext.

*variabilis.—East U. S. A.

Ixodes †866.—Ext.

cookei.

*diversifossus.—New Mexico.—T. h.

*marxi.—Montgomery Co., Alabama.

*texanus.—Live Oak Co. t, Texas.— T. h.

Ceratophyllus †1627.—Ext.

*wickhami.—Penna.

Ctenocephalides †1639.—Ext.

†*canis.—N. America.

[†scrraticeps o.]

Trichodectes †1100.—Ext.

crassus o.

melis.—America.

octomaculatus.—Brit. Columbia.

procyonis.—Brit. Columbia ^t.—T. h. vulpis ^{d s} Tasch.

#561 *Procyon (Procyon) lotor hernandezii (Wagler, 1831, Oken's Isis, v. 24, 514) Allen, 1890, Bul. Amer. Mus. Nat. Hist., v. 3 (1), 176. Black footed raccoon, Hernandez's raccoon, Marpach, Apache, Tejon solitario. Southern Mexico '; north to Rio Grande of Texas and west to Pacific.

Trypanosoma †94.—Blood. †gambiense.

#561 *Procyon [or Meles 1] (Procyon) loter loter (Linn., 1758a, 48 [Ursus 1]) Miller, 1912, U. S. Nat. Mus., Bul. 79, 89. Raccoon, Schupp, Waschbär. Eastern United States 4.

Agamodistomum †240.

*la-ruci.—Lungs.—Near Douglas Lake, Michigan .—T. h.

Trichopsylla <†1626.—Ext.

*lotoris.—Olcott t, N. Y.—T. li.

#561 Procyon lotor pacifica (Merriam, 1899, N. Amer. Fauna, no. 16, Oct. 28, 107 [Procyon psora]) Elliot, 1901, Synop. Mamm. N. Amer., v. 2, Zool. ser., 319. Pacific Raccoon. So. #561 Procyon psora pacifica, q. v.

#561 Procyon psora Gray, 1842, Ann. Mag. Nat. Hist., v. 10, Dec., 261. Sac-

ramento ^t, Calif. Two subspecies.

Pulex +1635.—Ext.

†irritans.—Calif.i

Trichodectes †1100.—Ext.

*octomaculatus.—Palo Alto t, Calif.—T. h.

#561 *Procyon (Procyon) psora pacifica Merriam, 1899, N. Amer. Fauna, no. 16, Oct. 28, 107. Pacific coast raccoon. Lake Kechelus, Cascade Mountains, Washington t.

Nanophyetus < †271.

*salmincola.—Northwestern U.S.A.

#561 *Procyon (Procyon) psora psora (Gray, 1842, Ann. Mag. Nat. Hist., v. 10, Dec., 261) Miller, 1912, U. S. Nat. Mus., Bul. 79, 90. Sacramento, Calif.^t

#561 Procyon species.

Dioctophyme †426.

[qulonis-sibirici s.]

[sanguineus d.]

Tetragomphius 388f.

procyonis.—Calcutta Zoo, India.—T. h.

#562 (559). NASUINAE Gill, 1872a, 6, 67.—Coatis. Muzzle elongate and compressed above; preorbital foramen remote from orbit, the anterior rim of which is above m1; inferior edge of anterior nares thickened and produced; glenoid portion of zygoma much extended anteroposteriorly; a very distinct supplementary foramen between carotid and foramen lacerum posticum; upper edge of rhinarium produced, its anterior surface nearly flat, with vertically elongated nostrils and narrow septum. Digits fully webbed; claws powerful. Anal glands a series of small pockets on each side. Mastoid as in BASSARICYONINAE; palate as in PROCYONINAE; position of carotid foramen and f. ovale intermediate. Bursa retained but not marginal. See #563.

#563. Nasua Storr, 1780, Prodr. Meth. Mamm., 35, tab. A, tat. nasua Linn.— Coatis, Coati-Mundis, Cuati. Body elongated, rather compressed. Nose prolonged into a somewhat upturned, obliquely truncated, mobile snout; upper canines larger and more strongly compressed than in Procyon, molars smaller. Tail long, nonprehensile, tapering, annulated. Central America; Mexico. Syns.: Coati o Lacépède, 1799, Tabl. Manm., 7, mt. nasua; Nasica ^m South, 1845, Encycl. Metrop., v. 7, 383.

#563 Nasua fusca o Fischer, 1814, Zoog., v. 3, 176, narica, q. v., renamed.

#563 Nasua [or Ursus¹] narica (Linn., 1766, Syst. Nat., v. 1, 64 [Viverra¹]) Desm., 1804, Nouv. Dict. Hist. nat., tab. 24, 15. Coati, Coati de vára, Coati mondéo, Pisoti, Tejon. America ; C. America; Mexico. Syn. nasica · Elliot, 1904, Land & Sea Mamm., Chicago, 497. Several subspecies.

Alaria $\leq \dagger 223j$.

*n a s u a e.—Ceca.—Washington, D. C.—Nasua nasica o t. h.

Diphyllobothrium †295.

reptans.—Larva in muscles.

Taenia 1 < †299.—Intest.

crassipora.—Brazil t.—T. h.

Filaria 1 †435.

incrassata.—Subcut.—Brazil ^t. viverae ^s.—Brazil ^t.—T. h.

Physaloptera †469.

semilanceolata.—Stom.—Brazil. species Trav., 1927.—Matto Grosso.

Toxocara †484.—Intest.

brachyoptera *.—Brazil.

mystax o.

Uncinaria ¹ 390B.—Intest.

bidens.—Ypanema.

[viverrae-naricae °.]

Macracanthorhynchus †508.

[hirundinacea ^m.]

Prosthenorchis †501p.—Intest.

lühei.—Brazil ^t.—T. h.

spirula.—Brazil. Ixodes †866.—Ext.

bicornis.—Costa Rica.

Trichodectes †1100.—Ext.

nasuatis.—Costa Rica t.—T. h. pallidus.—Rotterdam Zoo.—T. h.

#563 Nasua narica bullata Allen, 1904, Bul. Amer. Mus. Nat. Hist., v. 20, Feb. 29, 48. Dark Coati. Pozo Azul, Pirris Province, Costa Rica ^t. Syn. Nasua nasica ^c bullata Elliot, 1904, Land & Sea Mamm., Chicago, Zool. ser., v. 4 (2), 497.

Trichodectes †1100.—Ext. pallidus.—Costa Rica.

#563 Nasua narica narica (Linn., 1766, Syst. Nat., v. 1, 64 [Viverra 1]) Miller, 1924, U. S. Nat. Mus., Bul. 128, 110. State of Vera Cruz, Mexico t.

#563 Nasua narica panamensis Allen, 1904, Bul. Amer. Mus. Nat. Hist., v. 20, Feb. 29, 51. Boqueron Coati. Boqueron, Chiriqui, Panama t. Syn. Nasua nasica e panamensis Elliot, 1904, Land & Sea Mamm., Chicago, Zool. ser., v. 4 (2), 498.

Strongyloides †355.

nasua * i.—Panama.

#563 Nasua ^t [or Procyon ¹, Ursus ¹] nasua (Linn., 1766, Syst. Nat., v. 1, 64 [Viverra ¹]) Desm., 1804, Nouv. Dict. Hist. nat., tab. 24, 15. America ^t. Syn. rufa ^o.

Trypanosoma †94.—Blood.

hippicum.—Exp.

Toxocara †484.—Intest. [alienata s.—Brazil.]

†mystax o.

Strongyloides †355.—Intest.

†stercoralis .

#563 Nasua rufa · Tiedemann, 1808, Zool., 379, nasua, q. v., renamed.

#563 Nasua socialis* of Saussure, 1862, Zool. Garten, v. 3, 52, 56 [not Wied].

Mexico. So. #563 Nasua narica, fide Trouess., 1897c, 250.

#563 Nasua socialis Wied-Neuwied, 1826, Beitr. Naturg. Bras., Weimar, v. 2, 283, nasua+rufa renamed. Rüsselbär, gemeiner Cuati, geselliger Coati. East Brazil , S. America. So. rufa, fide Trouess., 1897c, 250; so. narica, fide Ihering, 1911, 233.

Atriotaenia <319C.
parva.—Brazil t.—T. h.

Diphyllobothrium †295.

reptans.—Larva in muscles.

Taenia 1 < †299. crassipora.—Intest. Dioctophyme †426. †gigas •.—Prussia. †renale.—Marajo. [sanguineus h o.]

Filaria 1 †435.

incrassata.—Subeut.

Physaloptera †469. scmilanceolata.—Stom.

Strongyloides †355.—Intest. †stercoralis •.—Exp. temporary.

Toxocara †484.—Intest.

[alienata.] †mystax.

Uneinaria 390B.—Intest. bidcns.

Maeraeanthorhynchus †508 [hirundinaeeus m.]

Prosthenorehis †501q. spirula.—Small intest.

Amblyomma †881.—Ext. †cajennense.—Brazil. †fossum.—Brazil. †ovale.

Ctenoeephalides †1639.—Ext. †felis.—Argentina.

[nasuac *.—Argentina t.—T. h.]

#563 Nasua solitaria ^e Wied-Neuwied, 1826, Beitr. Naturg. Bras., Weimar, v. 2, 292. Einsamer Coati. East Brazil ^t. So. narica, fide Ihering, 1911, 233; so. rufa, fide Trouess., 1897c, 250.

Ctenocephalides †1639.—Ext. †canis.—Pará, Brazil.

#563 Nasua solitaria • Saussure, 1862, Zool. Garten, v. 3, 52, 56 [not Wied]. Mexico. So. narica, fide Trouess., 1897c, 250.

#563 Nasua species.

Dioctophyme †426.
[gulonis-sibirici.]
[sanguineus d.—"Coati."]
Notoedres †936.—Ext.

 $[\dagger notoedres.]$

Sarcoptes †942.—Ext. species Colin, 1867a.—Paris.

#563 Nasua viverra, probably for Viverra 1 nasua. So. #563 Nasua nasua. #565(558). BASSARISCINAE Poeoek, 1921, Proc. Zool. Soc. London, 421.— Caeomistles. Mesopterygoid fossa long, extending to posterior molars; molars and premolars with pointed or blade-like eusps; canines rounded in section, not grooved and not mutually sharpened. Bursa of ear with anterior flap emarginate, posterior flap attached behind edge of pinna. Metatarsus with at most a small naked area above plantar pad; claws short, sharp, eurved; digits fully webbed or nearly so. Facial portion of skull and zygoma as under #559; hamular in front of foramen ovale; no supplementary foramen behind earotid. See #566.

#566. *Bassariscus Coues, 1887, Sei., v. 9 (225), May 27. 516, tod. (Art. 30f Internat. Rules Nomen.) Bassaris h astuta Lieht. (Bassaris h Lieht., 1831, renamed).—Katzenfrett. Form more slender and of more elegant proportions than Procyon, sharper nose, longer tail, and more digitigrade feet, teeth smaller and more sharply denticulated. Central America; Mexico; southern United States. Syns.: Basaris Gray, 1847, List Osteol. Spec. Brit. Mus., pp. x, 14; Bassaris h Lieht., 1831, Oken's Isis, Heft 1, 512, mt. astuta Lieht., from Mexico [not Bassaris Hübner, 1816–21, lepidopt.].

#566 *Bassariscus [or Basaris c] astutus Lichtenstein, 1830, Abh. ph.-Kl. K. pr. Ak. Wiss. (1827), 119 [Bassaris b c]) Coues, 1887, Sci., v. 9, May 27, 516. Civet Cat, common raccoon-fox, gemeines Katzenfrett, cacamizli, cacamistl, cacomistl. S. Mexico t; western U. S. A.

Mesocestoides < †299.—Intest.

bassarisci.—New York Zoo, from

Mexico t.—T. h.

Uncinaria 390B.—Intest. *lotoris.—Texas.

Ixodes †866.—Ext.

rubidus.—Guanajuata t, Mexico t.

Neotrichodectes < †1099.—Ext.
[*mephitidis * Osborn.—Calif.]
Phalacropsylla < †1623.—Ext.
*paradisea.—Paradise *, Ariz.—
Civet cat t. h.
Trichodectes †1100.—Ext.
thoracicus.—Lake Co.*, Calif.—T. h.

#566 Bassariscus astutus astutus (Lichtenstein, 1830, Abh. ph.-Kl. K. pr. Ak. Wiss. 1827, 119 [Bassaris ho]) Miller, 1912, U. S. Nat. Mus., Bul. 79, 88. Southern Mexico t.

#566 *Bassariscus astutus oregonus (Rhoads, 1894, Proc. Acad. Nat. Sci., Phila., v. 45, Jan. 30, 416 [Bassariscus flavus]) Miller & Rehn, 1901, Proc. Boston Soc. Nat. Hist., v. 30, Dec. 30, 230. Grant's Pass, Oregon ^c. Fide Merriam, 1897, 186–187, this should stand as Bassariscus raptor.

Neotrichodectes < †1099.—Ext. [mephitidis * Osborn.]

- #566 *Bassariscus (Bassariscus) astutus raptor (Baird, 1859, Mamm. Mexican boundary, 19 [Bassaris ho]) Elliott, 1901, Synop. Mamm. N. Amer., Zool. ser., v. 2, 316. Robber raccoon-fox. Washington (supposed to have been brought from California). So. astutus oregonus, fide Miller, 1924, 113.
- #567 (557). Potosinae Trouess., 1904c, Cat. Mamm., 183.—Kinkajous. Mandible very massive, the rami early fused by a long symphysis, the lower edge straight by the growth posteriorly of a large lamina, sometimes rounded, sometimes angled, beneath the angular process, which is reduced to a small excrescence beneath the condyle; inner dentary foramen beneath base of anterior edge of coronoid; palate parallel-sided, as wide in front as behind, depressed behind molars; paroccipitals and mastoids standing away from bulla, which has carotid foramen set forwards much nearer for. lac. med. than for. lac. post.; molars flat-crowned even when newly cut; pm.1 absent above and below. Tail prehensile. Two ventral cutaneous glands. Anal glands aborted. See #568. Syn. Cercoleptinae Trouess., 1897c, Cat. Mamm., v. 1, fasc. 1, 248.
- #568. Potos ⁶⁴ Geoffr. & Cuv., 1795, Mag. encycl., v. 2, 187 (for Kincajou) tsd. (1904; 1924) Viverra ¹ caudivolvula Schreb. so. flavus Schreb.—Kinkajous, Wickelbär. Teeth 36 (i. 3/3, c. 1/1, pm. 3/3, m. 2/2); molars with low flat crowns, very obscurely tuberculated. Skull short, rounded, with flat upper surface. Clavicles very rudimentary. Head broad and round. Ears short. Body long, musteline. Legs short. Tail long, tapering, prehensile. Fur short and soft. Tongue long, very extensile. Forests of warmer parts of South and Central America.

Cercolabes h · Grevé, 1894, Nova Acta Leop., Hallo, 217, mt. caudivolvus [not Cercolabes Brandt, 1835, rodentl:

Cercoleptes o Illiger, 1811, Prodr. Syst. Mamm. et Avium, 127-128, mt. caudivolvula;

Kineajou mo Lacépède, 1799, Buffon's Hist. nat., Didot ed., Quadr., XIV, 154, mt. caudivot-

Kinkajou · Lacépède, 1799, Tabl. Mamm., 7, mt. caudivolvula;

Kinkaschu • • Fiseher, 1813, Zoog., ed. 3, v. 1, 14;

Kinkaschus oo Fiseher, 1813, Zoog., od. 3, v. 1, 21;

Kinkojou Gill, 1872a, 67.

[🕯] Syns.: Caudivolvulus • Duméril, 1806, Zool. Analytique, Paris, 14, mt. le kinkajou;

#568 Potos ^t [Cercolabes ^h, Cercoleptes ^t, Ursus ^l] caudivolvula (Pallas in Schreb., 1777, Säugth., v. 3, 453 [Viverra ^l]) Desm., 1820, Encycl. méth., Mamm., (1), 171. Kinkaju, Wickelbär. Surinam ^t. So. flavus.

Echinorhynchus ¹ †502. species Cobbold, 1866b.—Intest.—London Museum.

#568 Potes flavus (Schreber, 1775, Säugth. (1774), v. 1, pl. 42 [Lemur]).

Crenosoma < †418.

potos.—Lungs.—London Zoo.—T. h.

- #569 (556). AILURIDAE Flower, 1869, Proc. Zool. Soc. London, 15, 37.—Penis short, prepuce close to scrotum. Pads of feet reduced and functionless, completely concealed by wooly hair; carpal pad remote from plantar pad. Anus in center of glandular depressed area. Pm.2 and pm.3 of maxilla large and three-rooted; pm.3 quinquecuspid and closely resembling pm.4; alisphenoid canal present; foramen rotundum minute, lying beneath for lac. ant., the two separated by a very thin plate of bone and sunk in a common pit; foramen ovale clongate. Anterior edge of coronoid inclined forward. Southern China; northeastern India. See #570.
- #570. Ailurus Cuv. in Geoffr. & Cuv., 1825, Hist. nat. Mamm., June, v. 3 (50), 3, mt. fulgens Geoffr. & Cuv.—Panda. Teeth 38 (i. 3/3, c. 1/1, pm. 3/4, m. 2/2); head round; face short and broad; ears large, erect, pointed. Legs stout, claws large, sharp, semiretractile. Tail nearly as long as body, cylindrical, annulated, clothed with long hairs. Fur long and thick. Southern China; northeastern India. Syns.: Aelurus and Agassiz, 1846, Nomen. Zool., Index Univ., 25 [not Aelurus Klug, 1840, hymenopt.]; Arctaelurus Gloger, 1842, Hand-u. Hilfsbuch Naturg., v. 1, 55, mt. fulgens.
- #570 Ailurus [†] [or Aclurus [°] [°]] (Aclurus [°] [°]) fulgens Cuv. in Geoffr. & Cuv., 1825, Hist. nat. Mamm., v. 3 (50), pl. 203, June, pp. 1–3.—Himalayan raccoon, panda, red cat-bear, Nigálya-ponya, Saknam, Sankam, Thokya, Thongwa, Thongwa, Wah, Wakdonka, Woker, Yé. "Indes orientales" [†]; eastern Himalayas at an elevation between about 7,000 and 12,000 fcet, as far westward as Nepal, and extending eastward through mountainous districts of Assam into Yunnan; unknown in Malay countries.

Ancylostoma †387.—Intest. †brasiliense. †ceylanicum*. Toxascaris †486.—Intest. transfuga.—India. Ctenocephalides †1639.—Ext. †felis.

#571 (555). Feet short, broad; digits subequal, their pads forming a lightly curved line in front of broad plantar pad. Tail reduced to an anal oper-culum. M.3 of mandible retained; carotid foramen at posterior end of bulla, close to foramen lacerum posticum. See #572.

#572 (572a 65). URSIDAE Gray, 1825, Thompson's Ann. Philos., n. s., v. 10 (5), Nov., 339.—Bears; ours; Bär. Cheek teeth comparatively small, especially pm.1-pm.3, which are mostly unicuspid and one-rooted, but pm.1 larger and more persistent than pm.2; upper pm.4 at most tricuspid, inner root normally fused with posterior root; lower pm.4 short, unicuspid; teeth generally 42 (i. 3/3, c. 1/1, pm. 4/4, m. 2/3); zygoma arising approximately above middle of m.2, which is far in advance of mesopterygoid fossa, the latter preceded by a long edentulous posterior palate; alisphenoid canal present; floor of external auditory meatus produced to reach approximately to end of thick mastoid process; mandible not thickened on inner side of coronoid, which does not conceal m.3 and is comparatively low and but little hooked; angular well developed, condyle and glenoid surface not abnormally wide. Fore foot without long radio-carpal sesamoid; feet thoroughly plantigrade, broad, adapted for digging, though not used for fossorial purposes; toes 5 on front feet, 5 on hind. Heavily built, short tails, protrusible lips, reduced vibrissae and no bursa on the ear. Northern hemisphere, south in Old World to Atlas Mountains and Malay Archipelago and in America to the Andes. Contains (fide Pocock, 1929, 899): Helarctos, Melursus, Scienarctos, Thalarctos, Tremarctos, Ursus. See #573 Helarctos, #574 Melursus, #575 Thalarctos, #576 Ursus.

#573. Helarctes Horsfield, 1825, Zool. J., v. 2 (6), July, 221–234, tod. curyspilus Horsfield, from Borneo.—Head short, broad; molar teeth comparatively broad (but length still exceeding breadth); tongue very long and extensile. Fur short, smooth. Borneo t, India. Malay, etc. Generic names ending in arctos are usually quoted as masculine; in absence of a ruling to the contrary we follow this custom although it would seem that arctos feminine would perhaps be more classical. Syn. Helarctus Gloger, 1842, Hand- u. Hilfsb. Naturg., v. 1, pp. xxviii, 53, mt. malayanus.

#573 Helarctos [or Helarctus, Prochilus 1] (Helarctos) malayanus (Raffles, 1821, Trans. Linn. Soc. London, v. 13 (1), 254 [Ursus 1]) Horsfield, 1825, Zool. J., v. 2 (6), July, 225, 234. Malay bear, Malayan sun-bear, Sun bear, Bruan, malanischer Bär, Malayischer Bär, Brúang, Wek-won. Malay Peninsula, Sumatra t, Java, Borneo, extends north into Tenasserim, Arakan, Chittagong, and the Garo hills of India.

Pentorchis < †306I.

arkteios.—Rangoon t, Burma.—Syn.

arctius o 1930.—T. h.

Ancylostoma †387.—Intest.

†malayanum.—Kandy, Ceylon.—T.
h.

Toxascaris †486.—Intest. transfuga [transfusa m]. Kaemaphysalis †869.—Ext. hystricis.—Malay. †leachi.—Malay.

#574. Melursus Meyer, 1793, Zool. Entdeck., Leipzig, 155–160, mt. lybius Meyer so. Bradypus ¹ ursinus Shaw renamed.—Sloth bears, Baerdachs. Four incisors in upper jaw, even in the young; teeth 40 (i. 2/3, c. 1/1, pm. 4/4, m. 2/3); all molars and premolars very small, the latter separated from

os #572a (572). Alluropodide Pocoek, 1921, Proc. Zool. Soc. London, 420.—Giant panda. Cheek teeth excessively developed, except pm.1 of upper jaw, which is minute in maxilla, and absent in mandible; pm.2 of maxilla and pm 2 and pm.3 of mandible trieuspid; pm.3 of maxilla sexcuspid; pm.4 of same, with 3 large outer and 2 large inner cusps, its inner root not fused with posterior root; lower pm.4 long, tricuspid; zygoma arising approximately above middle of m.1; posterior end of m.2 reached or overlapped by anterior end of mesopterygoid fossa; no long edentulous posterior palate; alisphenoid canal absent; floor of external auditory meatus abbreviated and falling far short of long compressed mastoid; mandible thickened on inner side of coronoid, which conceals m.3 and is high and hooked; angular much reduced; condyle and glenoid surface abnormally wide. Fore foot with long radio-carpal sesamoid. Southern China; Tihet. Contains Ailuropoda.

each other by a considerable interval; lips very large, extensile; palate deeply concave. Claws very large and powerful; snout elongate and mobile. Hair black, coarse, very long; light horse-shoe-shaped mark present on chest; end of muzzle ashy gray. Otherwise as in *Ursus*. Vertebrae: C. 7, D. 15, L. 5, S. 5, Cd. 11. Indian Peninsula and Ceylon. Syns.: Chondrorhynchus o Fischer, 1814, Zoognosia, v. 3, 142–143, tsd. (1904) ursinus Shaw; Prochilus h Illiger, 1811, Prodr. Syst. Mamm., 109, mt. ursinus Shaw=(1904) labiatus Blainville [not Prochilus Walbaum, 1792, Pisces]; Prochylus h Wiegmann, 1835, Archiv Naturg., v. 2, 321.

#574 Melursus [or Prochilus h] labiatus o (Blainv., 1817, Bul. Soc. Philom., Paris, May, 74 [Ursus l], ursinus renamed) Grevé, 1894, Nova Acta Acad. Leop., Halle, 243. So. #574 Melursus ursinus, q. v.

#574 Melursus ursinus (Shaw, 1791, Nat. Misc., v. 2, pl. 58 [Bradypus ¹])
Blanford, 1888, Fauna Brit. India, Mamm., 201. Aswal or Sloth bear or Indian bear, Lippenbär, Adam-zád, Asol, Aswail, Bana, Bhalú, Bhalúk, Birmenai, Bir Mendi, Elugu, Kaddi, Karadi, Pani-karadi, Pani Karudi, Riksha, Rích or Rínch, Usa, Yedjal, Yerid. Interior parts of Bengal ^t; Peninsula of India from near the base of the Himalayas to Cape Comorin, and Ceylon, chiefly in hilly and jungle parts.

Ancylostoma †387. †brasiliense.

†caninum.—India. †ceylanicum *.

†malayanum.

Toxascaris †486.

transfuga.—India.

Dermacentor †873.—Ext.

auratus.—United Prov., India.

#575. Thalarctos Gray, 1825, Ann. Phil., n. s., v. 10, July, 62, mt. polaris Gray so. maritimus Phipps.—Polar bears, Polargebiet. Cheek-teeth relatively small; incisors and canines enlarged and unusually prehensive in character. Similar to Ursus, but cheek-teeth much less robust, the combined length of the two upper molars not equal to width of palate; canines and incisors enlarged and more prehensive in general form. North Polar region, south to northernmost continental coasts. Syns.: Thalassarctos Gray, 1825, Ann. Phil., n. s., v. 10, Nov., 339, no species cited; Thalassarctus Gloger, 1842, Hand-u. Hilfs. Naturg., v. 1, pp. xxviii, 54, mt. maritimus; Thalassiarchus o Kobelt, 1896, Bericht Senck. naturf. Gesellsch. Frankfurt am Main, 93, mt. maritimus.

#575 Thalarctos [or Thalassarctos, Thalassarctus] (Thalassarctos, Thalassarctus)
maritimus (Phipps, 1774, Voy. toward North Pole, London, 185 [Ursus ¹])
Gray, "1849", Zool. "Samarang", 36. Polar bear, ours blanc, Eisbär,
Polarbär, Isbjörnen. Spitzbergen ¹; Arctic Ocean, south on floating ice
oceasionally to northern coast of Norway. Details of distribution unknown.
Cf. also Linn., 1758a, 47, for name maritimus.

Bothriocephalus | < †286.—Intest. species Foot, 1865.—Dublin Zoo.

Diphyllobothrium †295. †latum.

Taenia + †325.—Intest.

ursi-maritimi.—Mus. Paris.—T. h.

Haemonchus †417.

†*contortus.—Phila. Zoo.

Toxascaris †486.—Sm. intest. transfuga.

Trichinella †366.

†spiralis.—Phila. Zoo.

Uncinaria 390B.—Intest.

[ursi.—Mus. Wien; Mus. Paris.]

[ursi-maritimi °.]

#575 **Thalarctos maritimus maritimus** (Phipps, 1774, Voy. toward North Pole, London, 185 [Ursus 1]) Miller, 1924 a, 107. Spitzbergen t; Ellesmereland; Hudson Bay; West Greenland.

#575 Thalarctos maritimus ungavensis (Knottnerus-Myer, 1908, Sitzungsber. Gesellsch. naturf. Freunde Berlin, July, 181 [Thalassarctos (Ursus 1)]) Miller, 1912, U. S. Nat. Mus., Bul. 79, 77. Ungava Bay, Ungava, Canada t.

#575 **Thalarctos** (Thalarctos) polaris • (Shaw, 1792, Mus. Leveriani, v. 1, 7, pl. 2, marinus plus maritimus renamed [Ursus ¹]) Gray, 1825, Ann. Philos.,

v. 26, July, 62. So. #575 Thalarctes maritimus, q. v.

#576. Ursus 66 Linn., 1758a, 47, tat. arctos Linn. syn. ursus Gesner.—Ordinary bears, black bears, brown bears, grizzly bears, Bär. Teeth 42 (i. 3/3, c. 1/1, pm. 4/4, m. 2/3); inner upper incisor well developed, permanent; first, second, and third premolars in both jaws small, single-rooted, readily deciduous, especially pm², pm₂, and pm₃; molars large and robust, length of the 2 upper teeth together equal to width of palate; upper carnassial considerably smaller than either of the true molars, which are both longer than broad, with flattened, tuberculated grinding-surfaces, much worn down in old animals; lower earnassial has a small and indistinct blade and greatly developed tubercular heel; second true molar about same length as lower carnassial, but broader; hindmost molar shorter. Feet broad and completely plantigrade, soles naked; toes 5-5, all well developed; claws long, compressed, moderately curved, nonretractile. Tail very short. Ears small, erect, rounded, hairy. Pupil round. Mammae 6. Skull elongate (except in U. malayanus); orbits small and incomplete behind; palate prolonged considerably behind last molars; alisphenoid canal present; a marked projection inside the base of lower jaw near the angle, as in seals. Northern hemisphere from northern limits of great continental areas south to Atlas Mts., the Himalayas, and Mexico.

#576 Ursus [or Euarctos *] (Euarctos, Euarctus c) americanus (Pallas, 1780, Spic. zool., fasc. 14, 5). American black bear, amerikanischer Schwarzbär, amerikanischer Bär, Baribal. Eastern N. America t. Several subspecies.

Nanophyetus < †271. *salmincola.—Exp.

Diphyllobothrium †295.

 $\dagger latum.$ —Exp.

Toxascaris †486.—Small intest.

*transfuga.—Phila. Zoo.

Dermacentor †873. †*venustus d 1.—So. †andersoni. Trichopsylla < †1626.—Ext.

setosa.—Mabel Lake, Brit. Columbia.

#576 Ursus (Ursus) arctos Linn., 1758a, 47. Brown bear, common European bear, European brown bear, snow bear or red bear of European sportsmen, only a local race of the brown bear, ours brun, europäischer, brauner, or gemeiner Bär, brune landbjørn, Barf-ka-rinch, Brabu, Dab, Drengmo, Drinmor, Dúb, Háput, Kunia-haput, Lál-bhálú, Tom-khaina. Sweden '; entire continent of Europe wherever sufficiently extensive forests remain, west formerly to Gr. Britain, where it became extinct about the 11th century; not certainly known to have occurred in Ireland; east into Asia; Africa. Syn. arctus ' Blanford, 1888, Fauna Brit. India, Mamm., 194.

Myrmarctos • Gray, 1864, Proc. Zool. Soc. London, no. 44, 694, int. eversmanni so. (1912) arctos; Ursarctos • Heude, 1898, Mém. Hist. nat. Empire Chinois, v. 4, 18, 20, 23, tsd. (1904) arctos yesoensis Lydekker, from Yezo, Japan;

Vetularctos * Merriam, 1918, N. Amer. Fauna, no. 41, Feb. 9, 131-132, mt. tod. inopinatus Merriam, 1918.

⁶⁶ Syns.: Danis Gray, 1825, Ann. Philos., n. s., v. 10, July, 60, mt. ferox Desm. syn. horribitis Ord; Euarctos Gray, 1864, Proc. Zool. Soc. London, no. 44, 692, mt. americanus Pallas; Euarctus e Elliot, 1901, Synop. Manim. N. Amer., Zool. Ser., v. 2, 313;

Murmaretes e Gray, 1864, Proc. Zool. Soc. London, no. 44, 694, ut. trersmanni so. (1912) a

Bothriocephalus $^{1} < †286$.

ursi.—Zoo, Germany.—T. h.

Cysticercus †326.

†ccllulosac.—Muscle.

Diphyllobothrium †295.—Intest. †latum.

Taenia * †325.—Intest.

ursina.—Copenhagen Zoo, from Russia ^t.—T. h.

Gongylonema †462, 466C.

contortum ^h °.—Esophagus.—M. C. V

ursi °.—Esophagus.—M. C. V. [ursi-arcti.—Mus. Vienna.]

Nematoideum †352a.

Toxascaris †486.—Intest.

transfuga [transfusa m].—M. C. V.

Dermacentor †873.—Ext.

?†venustus 1.—So. †andersoni.

Arctopsylla < †1626.—Ext.

tuberculaticeps.—Valtellina ¹, Italy.— T. h.

Trichodectes †1100.—Ext.

pinguis.—Europe t.—T. h.

Trichopsylla < †1626.—Ext.

[strandi.—Norway t.—T. h.]

#576 Ursus (Ursus) arctos beringianus Middendorff, 1851, Sibir. Reise, v. 1, 53, 74, pl. 1, figs. 1-6 [nv]. Amur; Kamtschatka; north Japan. So. #576 Ursus arctos collaris, fide Lydekker, 1897, Proc. Zool. Soc. London, 421; Trouess., 1899c, Cat. Mamm., fasc. 6, 1291. Distinct subspecies, fide Trouess., 1904c, Cat. Mamm., 179.

Cyathostoma <†404.

bronchiale.—Small intest.—Phila. Zoo.

Toxascaris †486.—Intest.

*transfuga.—Phila. Zoo.

#576 Ursus (Ursus) arctos collaris (Cuv. in Geoffr. & Cuv., 1824, Hist. nat. Mamm., v. 3 (42), June, pl. 213) Trouess., 1897c, Cat. Mamm., v. 1, 240. Kamchatkan Brown Bear. Eastern Siberia; northern China; Tengri Nor; Ural Mountains.

#576 Ursus beringiana ^s (Middendorff, 1851, Sibir. Reise, v. 1 (2), 53, 74, pl. 1, figs. 1-6 [Ursus arctos] [nv]) Merriam, 1896, Proc. Biol. Soc. Washington, v. 10, Apr. 13, 69. Amur; Kamchatka; north Japan. So. #576 Ursus arctos beringianus ^s, q. v.

#576 Ursus 1 cancrivorus Cuv., 1798, Tabl. Elém., 113. So. #561 Procyon cancrivora, q. v.

#576 Ursus fuscus o Tiedemann, 1808, Zoologie, v. 1, 374, arctos, q. v., renamed. #576 Ursus gulo (Linn., 1758a, 45 [Mustela]) Schreber, 1777, Säugth., v. 3, 525, pl. 144 (1776). So. #523 Gulo gulo, q. v.

#576 *Ursus (Danis) horribilis Ord in Guthrie, 1815, Geogr. gram., 2d Amer. ed., v. 2, 291. Grizzly bear, ours gris. U. S. A. (Montana '); Rocky Mountain range north to Arctic coast.

Toxascaris †486.—Intest.

transfuga.

Dermacentor †873.—Ext.

†*venustus 1.—So. †*andersoni.

Arctopsylla <†1626.—Ext. [ursi*.—Alberta*.—T. h.]

#576 *Ursus (*Ursus*) horribilis horribilis (Ord in Guthrie, 1815, Geogr. gram., 2d Amer. ed., v. 2, 291) Miller, 1912, U. S. Nat. Mus., Bul. 79, 73. Montana ^t.

#576 Ursus 1 labiatus ° Blainv., 1817, Bul. Sci. Soc. Philom., Paris, May, 74. So. #574 **Melursus** labiatus °, q. v.

#576 Ursus labradorius Gmel. in Linn., 1788, Syst. Nat., v. 1, 102. So. #544 **Taxldea** labradoria, q. v.

#576 Ursus 1 lotor Linn., 1758a, 48. So. #561 Procyon lotor, q. v.

#576 Ursus malayanus of Hodgson, 1832, J. Asiatic Soc. Bengal, v. 1, 340 [not malayanus Raffles]. Nepal. So. #576 Ursus thibetanus, fide Trouess., 1897c, 241.

#576 Ursus 1 malayanus Raffics, 1821, Trans. Linn. Soc. London, v. 13 (1), 254. So. #573 Helarctos malayanus, q. v.

#576 Ursus 1 marinus 2 Pallas, 1776, Reise durch verschiedene Provinzen des russ. Reichs, v. 3, 691. Arctic Ocean. So. #575 **Thalarctos marltlmus**, q. v., fide Miller, 1912, Mamm. W. Europe, 298.

#576 Ursus 1 maritimus Phipps, 1774, Voyage toward North Pole, London, 185. So. #575 Thalarctos maritlmus, q. v.

#576 Ursus meles Linn., 1758a, 48. So. #528 Meles meles, q. v.

#576 Ursus pruinosus Blyth, 1854, J. Asiatic Soc. Bengal, v. 22, 589. Blue bear, eastern Tibetan form. Tibet ^t.

Toxascaris †486.—Intest. *transfuga.—Phila. Zoo.

#576 Ursus species.

Babesia †173.—Blood.

[species Yakimoff in Yakimoff et al., 1910: "Piroplasmen" [Reported as Plasmodium, fide Wenyon, 1926a, 1354.—St. Petersburg Zoo.]

Echinococcus †322. †granulosus.

Ancylostoma †387.—Intest. †malayanum.

Ascaris 1 †479.

[species Weidman, 1923.—Phila. Zoo.]

Nematoideum $\dagger 352a$.

ursi.

Toxascaris †486.—Intest. transfuga.

Trichinella †366.—Muscles.

[species Bockum, 1888.—Germany.] [species Bihm, 1913.—Germany.] †*spiralis.

Dermacentor †873.—Ext.

†auratus.—Ceylon; India. compactus.—India.

Haemaphysalis $\dagger 869.$ —Ext.

 $bispinos a\ intermedia.$

†leachi •.

spinigera.—India.

Hyalomma †880.—Ext.

†aegyptium.—India.

hussaini.—Bihar and Orissa, India.
monstrosum.—Bihar and Orissa,
India.

Rhipicephalus †875.—Ext.

†haemaphysaloides.—India.

†sanguineus.—Ceylon, Burma, India.

#576 Ursus (*Ursus*) syrlacus Ehrenb., 1828, Symb. Phys., v. 1, 6 pages. Syrian brown bear, Bär des Lebanon, Syrischer Bär, weisser Landbär. Mt. Lebanon ^t, Syria; Persia.

Toxascaris †486.—Intest.

*transfuga.—Phila. Zoo.

#576 Ursus (*Ursus*) tibetanus Cuv. in Geoffr. & Cuv., 1824, Hist. nat. Mamm., v. 2 (39), 3, pl. 213. Kragenbär, Kuma. Asia. Syn. thibetanus · Blanford, 1888, Fauna Brit. India, Mamm., 197.

Taenia + †325.—Intest.

species Southwell, 1922.—Calcutta Zoo, India.

Toxascaris †486.—Intest. transfuga.—India.

Dermacentor †873.—Ext. auratus.—Burma *.

Haemaphysalis †869.—Ext.

formosensis.—Host i.—Formosa.

hystricis.—Burma t.

Trichodectes †1100.—Ext. pinguis.—Paris Zoo.

#576 Ursus torquatus • Wagner, 1841, Sehreb. Säugeth., Suppl., v. 2, 144, pl. 141D, tibetanus Cuv., renamed. Himalayan Black Bear, Kragenbär, Bhálu, Chúp, Dom, Háput, Hing-bong, Húghúm, Mágyen, Mam, Mapol, Mum, Múphúr, Musu-bhurma, Rích, Rínch, Sanár, Sápá, Sawom, Seván, Situm, Siyah-haput, Sona, Sutum, Thágua, Thega, Vúmpi, Wek-won. Asia (Hills of Nepal⁴): Himalayas, forest-regions, extending through parts of Afghanistan into Baluchistan; western limits about frontier of Persia. So. #576 Ursus tlbetanus, q. v.

#577. Connecting number with key to PINNIPEDIA. Cf. #407a.



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Italics are used for available, valid, or sub judice names, regardless of rank. Roman type is used for dead names, regardless of rank.

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